THE

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PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION—1857.

The Association commenced its Annual Meeting at the Hall of the Philadelphia College of Pharmacy, Sept. 8th, 1857, at 3 o'clock, P. M.

The President of the Association, George W. Andrews, of Baltimore, being absent in Europe, the meeting was called to order by Frederick Stearns, of Detroit, Vice President; W. J. M. Gordon, of Cincinnati, Secretary.

On motion of E. Parrish, a Committee of three was appointed on credentials, by the Chair, consisting of S. M. Colcord, of Boston, John Meakim, of New York, and William Procter, Jr., of Philadelphia, who after a recess reported the following list of Delegates:

From the *Philadelphia College of Pharmacy*—Dillwyn Parrish, Ambrose Smith, William Procter, Jr., Charles Bullock and T. S. Wiegand.

New York College of Pharmacy—John Meakim, Eugene Dupuy, Geo. W. Berrian, Jr., John Canavan and George W. De la Vergne.

Massachusetts College of Pharmacy—William A. Brewer, Charles A. Tufts, S. P. Peck, Charles T. Carney and Samuel M. Colcord.

Cincinnati College of Pharmacy—W. J. M. Gordon, Charles A. Smith, W. B. Chapman, Edward S. Wayne and A. M. Stevens.

Maryland College of Pharmacy—J. F. Moore, I. J. Grahame, J. H. Lemon, Joseph Roberts and J. Jacob Smith.

Pharmaceutical Association of Washington City—F. S. Walsh, S. E. Tyson, Daniel B. Clarke, D. S. Dyson and James N. Callan.

The following gentlemen were reported by the Executive Com-

mittee as having been elected members of the Association during the interim:

William Loeffler, Chambersburg, Pa.
Eugene L. Massot, St. Louis, Mo.
Crawford Blackwood, Columbus, Miss.
John Jackson, Knoxville, Tenn.
Samuel K. Norgrave, Pittsburg, Pa.
C. K. Gallagher, Washington, N. C.
Wm. B. Little, San Francisco, Cal.
Peter V. Coppuck, Mt. Holly, N. J.
H. A. Hughes, Louisville, Ky.
Washington Lacock, Detroit, Mich.
Matthew F. Ash, Jackson, Miss.

The Chairman of the Executive Committee reported the following gentlemen for membership, who were balloted for and duly elected, viz:

Samuel F. Troth,	Philada.	Thomas P. James,	Philada.
Louis M. Emanuel,	"	Samuel S. Bunting,	"
Samuel N. James,	"	Edward H. Hance,	"
George Cook,	"	William R. Warner,	"
Thomas Lancaster,	"	Evan T. Ellis,	"
Asher S. Leidy,	"	Bradford Ritter,	"

The Secretary then called the roll, and the following members were found to be present, viz:

Henry T. Cummings, of Portland,
Charles A. Tufts, Dover, N. H.
Henry F. Fish, Waterbury, Con.
Samuel M. Colcord, Boston, Mass.
Anthony S. Jones, Newburyport, Mass.
Charles T. Carney, Boston, Mass.
John Meakim, New York city,
Eugene Dupuy, "
John Canavan, "
Frederick Hale, "
H. T. Kiersted, "
Charles Ellis, Philada.
William Procter, Jr., "
Alfred B. Taylor, "
Edward Parrish, "
Samuel S. Garrigues, "
Frederick L. John, "
Samuel N. James, "
George Cook, "
Evan T. Ellis, Philada.
Bradford Ritter, "
William Heyser, Jr., Chambersburg, Pa.
Israel J. Grahame, Baltimore,
J. Jacob Smith, "
J. H. Lemmon, "
Joseph Roberts, "
J. F. Moore, "
James Balmer, "
D.S. Dyson, Washington City.
R. H. Stabler, Alexandria, Va.
A. E. Richards, Plaquemine, La.
W. J. M. Gordon, Cincinnati, O.
Frederick Stearns, Detroit, Mich.
Samuel F. Troth, Philada.
Louis M. Emanuel, "
Thomas P. James, "
Samuel S. Bunting, "
James N. Callan, Washington city.

Thomas Lancaster, Philada.
Asher S. Leidy, "
Edward H. Hance, "
William R. Warner, "
S. E. Tyson, Washington city.
Daniel B. Clarke, "
John Buck, Chelsea, Mass.

The Report of the Executive Committee was read by the Chairman, Edward Parrish, and on motion, was accepted, and laid on the table for future action. It is as follows:

The Executive Committee present the following Report of their proceedings for the past year:

The annual publication entitled "*Proceedings of the American Pharmaceutical Association,*" was issued early after the meeting in Baltimore. It comprised ninety octavo pages, and we have an evidence of the interest which it excited in the numerous applications for copies which reached the Committee by mail and otherwise. One thousand copies were published at an expense of $135 92.

The subject of collecting and placing in a safe repository the manuscript and printed documents of the Association, was referred to us last year, by Resolution, and we have obtained the use of cases in the Hall of the College of Pharmacy, Zane street, Philadelphia, for the purpose. It is cause of regret that so small a stock of the Proceedings of previous years is in our possession, and we propose that the effort be made to procure back numbers to be sent to the Chairman of the next Executive Committee, so that complete sets may be made up for future use.

There have been, since the last annual meeting, sixteen applications for membership. Of these, one was, by the advice of the Committee, withdrawn, eleven were approved by the separate members in writing, and duly elected.

Copies of the Constitution, signed by these applicants respectively, with the required vouchers of Physicians and Pharmaceutists, the approval of the Committee, and the endorsement of the President, accompany this report. They are designed to be deposited with the papers of the Association.

The remaining four applicants, up to the time of writing this report, are: George W. Sloan, Indianapolis, Ind.; John M. Clark, Milledgeville, Ga.; William M. Guilford Lebanon, Pa., and P. C. Candidus, Aberdeen, Miss. These have not received the necessary sanction of the President in consequence of his

absence from the country; their applications have been duly approved by the Committee, and they are recommended for election.

During the past year, which has been remarkable throughout the country for the rare occurrence of acute disease, our Association has sustained no loss by death, except in one instance, that of Benjamin Canavan, of New York, (see page 491.)

The following names have been erased from the roll, they having voluntarily relinquished membership by failing to pay their contributions for three successive years, exclusive of the contributions for the current year.

* * * * * * *

Your Committee, through Professor Guthrie, propose to make a separate report on the subject of the appointment of Special Examiners, referred to them last year.

EDW. PARRISH *Chairman.*
CHAS. T. CARNEY.
C. B. GUTHRIE.
W. J. M. GORDON.
I. J. GRAHAME.

The following Reports were read by their titles, and laid on the table:

The Report on a Syllabus of a course of study appropriate to the Student of Pharmacy.

The Report upon the subject of Weights and Measures.

The Report on the subject of the Sale of Poisons, &c.

The Report on the Progress of Pharmacy.

The Report on the expediency of the Association taking part in the revision of the Pharmacopœia, was read by its Chairman, Edward Parrish. The Report was accepted, and laid on the table for future consideration.

The Committee appointed to collect, compile and report local unofficinal formulæ in use by Physicians, presented a report, which was received and laid on the table.

The following Committee of one from each College of Pharmacy was selected by the delegations to nominate officers, viz.:

Massachusetts College.—S. M. Colcord.

New York College.—Eugene Dupuy.

Philadelphia College.—Wm. Procter, Jr.

Cincinnati College.—W. J. M. Gordon.
Maryland College.—Joseph Roberts.
Washington Association.—D. S. Dyson.

From the members at large, Edward Parrish, of Philadelphia, H. T. Cummings, of Portland, John Buck, of Chelsea, Massachusetts were appointed by the chair.

On motion, the selection of a room for the meeting of the Association among those in the College Hall was referred to the Local Committee.

The Treasurer's report was presented and laid on the table for future action.

An invitation was received from the Academy of Natural Sciences to visit their Museum, and from the Dean of the University of Pennsylvania to visit their Anatomical Museum, which were accepted and the thanks of the Association tendered.

On motion of Charles Ellis it was resolved that the professors of the Philadelphia College of Pharmacy, not members of the Association, be invited to attend the meeting.

The following gentlemen were proposed for membership by the Executive Committee, balloted for and elected.

William Fiske, Cleveland, Ohio.
N. H. Jennings, Baltimore, Md.
Wm. H. Pratt, Philadelphia Pa.
Edward Donnelly, do. do.
John Faber, New York.
Henry N. Rittenhouse, Wilmington, Delaware.
Henry Haviland, New York.
Charles H. Eggert, Philadelphia.
James Gordon, Boston.

It was on motion resolved, that when we adjourn we adjourn to 9 o'clock to-morrow.

Vice President Stearns then read the following Annual Address to the Association.

Gentlemen of the American Pharmaceutical Association,—

In the absence of our worthy President, G. W. Andrews, of Baltimore, and of our first Vice President, Mr. Kidwell, it has devolved upon me to state to you the results accomplished by the several Committees appointed at our last meeting, and to invite your earnest attention to the many subjects of importance and interest which will be presented for your consideration and action.

Allow me in this connection to refer with feelings of pride to the present condition of our Association, which, though young in years as an organization, has created for it—through its aims—an interest in the breast of all well disposed Pharmaceutists of our broad Union.

Allow me also to congratulate you upon the goodly number, who from the West, the North, the South are here assembled to-day, and assembled with one common object—the elevation and improvement of Pharmaceutical Science. I trust we are all earnest and enthusiastic in our work, and, gentlemen, let us hope that we may soon rank our Association among the most important, useful, and scientific of our country, in the influence it will exert in elevating us as professional men, and in promoting the public welfare. The reports of the Standing Committees—the first, Executive—will show you that our Association is in a most desirable condition of prosperity; the 2d, upon the Progress of Pharmacy, has a digest of numerous interesting facts to offer.

The reports of the special committees, from their completeness, will add valuable matter to the archives of our institution.

We may expect full reports from those to whom the several questions were proposed at our last meeting.

I am also led to believe that several unofficial reports and communications of an interesting and important character will be offered.

Your attention will be called particularly to the importance of appointing a general committee, whose duties shall be to suggest revision and additions to our National Codex at the Pharmaceutical Convention in 1860. The importance of this matter will receive, it is hoped, its due consideration at your hands. It is suggested from the success attending the apportioning of questions to individual members, that this method of obtaining interesting and important documents for the benefit of the Association be continued during the coming year, by the suggestion of new subjects for investigation to individual members.

Much other business will doubtless require your thoughtful and impartial consideration.

In the actions and discussions of this body of workers, I trust to see manifested enthusiasm, earnestness, that our meeting be conducted in a spirit of harmony, consistent with our position and character, and that your efforts will result in permanent good to our growing organization.

Before taking my seat among you, allow me to express my appreciation of the honor with which you were pleased to endow me, as well as my thanks for your present forbearance and courtesy.

On motion adjourned.

Second Day—Morning Session—Sept. 9th, 1857.

The Association was called to order at 9 o'clock A. M. by Vice President Stearns.

The following gentlemen having been proposed for membership by the Executive Committee, were ballotted for and elected:

Elisha H. Perkins, Baltimore, Md. George Syme, New York City.
George W. Sloan, Indianapolis, Ind. Alexander Hudnut, Brooklyn, N.Y.

John M. Clark, Milledgeville, Geo.
William M. Guilford, M. D., Lebanon, Pa.
P. C. Candidus, Aberdeen, Miss.
Charles A. Heinitsh, Lancaster, Pa.
Tristram W. Metcalfe, Brooklyn, New York.
Wm. L. McCorkle, Columbia, Pa.
R. F. Lattimer, Jackson, Mich.
Geo. M. Snowden, Philada., Pa.
Abraham S. Wiley, Cambridge, Massachusetts.
Eben Blatchford, Rockport, Mass.
Dexter D. Geyer, Gloucester, Mass.
Thos. Whitehorn, Brooklyn, N. Y.
T. Morris Perot, Philada., Pa.
H. Steiner, Philadelphia, Pa.
John S. Pemberton, Columbus, Georgia.
Edwin O. Gale, Chicago, Ill.
William H. Gale, " "
Chas. E. Heckman, " "
T. R. Spence, Detroit, Mich.
Wm. H. Peabody, Buffalo, N. Y.
John T. Fuller, Detroit, Mich.
Otto Leuschner, Detroit, Mich.
Alfred S. Lane, Rochester, N. Y.
James D. Paine, Chicago, Ill.
J. J. Wm. Bowling, Alexandria, Virginia.

The Committee appointed to nominate officers made the following report, which was accepted.

The Committee to nominate officers for the ensuing year, being embarrassed by former precedents and what may be considered an independent course, have deviated so far from the usual practice as to offer for your suffrages three candidates for the presidency instead of one. Our reason for so doing is because this is the first instance of our meeting twice in the same city. By following former precedents we should select our presiding officer from the place of our meeting, and if this course is still pursued it is evident that a president cannot be selected from the rural districts. Although the Association never has and never should sacrifice merit to locality, yet the committee deem the present time a suitable one to make a change in the mode of nomination, and would offer three names, all well qualified; one a resident of Philadelphia, one of a sister city, and a third from a locality having no organized body of pharmaceutists.

NOMINATIONS.

For President—Charles Ellis, of Philadelphia, Charles B. Guthrie, of New York, Henry F. Fish, of Connecticut.

1st *Vice President*—James Cooke, Fredericksburg, Virginia.
2d " " S. P. Peck, Bennington, Vermont.
3d " " A. E. Richards, Plaquemine, Louisiana.

Recording Secretary—W. J. M. Gordon, Cincinnati, Ohio.
Corresponding Secretary—Edward Parrish, Philadelphia, Pa.
Treasurer—Samuel M. Colcord, Boston, Massachusetts.
Executive Committee—S. S. Garrigues, Philadelphia, H. T. Cummings, Portland, Joseph Roberts, Baltimore, W. H. Gilman, Washington, W. J. M. Gordon, *Recording Secretary ex-officio.*
Committee on the Progress of Pharmacy—Frederick Stearns, of Detroit, I. J. Grahame, of Baltimore, R. H. Stabler, of Alexandria, Eugene Dupuy, of New York, Edward Parrish, *Corresponding Secretary, ex-officio.*

Respectfully submitted.

Signed, S. M. Colcord, and others.

The Chair having appointed John Meakim and S. S. Garrigues tellers, the members proceeded to ballot for President, when

Charles Ellis, of Philadelphia, was elected.

The President elect was then conducted to the chair by its late occupant, and in a few pertinent remarks returned his thanks to the Association for their expression of confidence.

The balloting for officers being continued, the following gentlemen were elected.

VICE PRESIDENTS,

1st. James Cooke, ...	Fredericksburg, Va.
2d. S. P. Peck, ...	Bennington, Vt.
3d. A. E. Richards, . . .	Plaquemine, La.

TREASURER,

Samuel M. Colcord, . . .	Boston, Mass.

RECORDING SECRETARY,

W. J. M. Gordon, ...	Cincinnati, Ohio.

CORRESPONDING SECRETARY,

Edward Parrish, ...	Philadelphia, Pa.

The *Executive Committee* and *Committee on the Progress of Pharmacy* were elected as above proposed by the nominating Committee, and subsequently these Committees severally elected S. S. Garrigues, of Phila., Chairman of the Executive Commit-

tee, and Frederick Stearns, of Detroit, Chairman of the Committee on the Progress of Pharmacy.

The Secretary was authorized by resolution to employ a Reporter to assist in embodying the discussions and extemporaneous communications for use in compiling the published proceedings. [This resolution did not get carried into effect.]

It was moved by Edward Parrish that the reports of standing and special Committees as introduced, so far as convenient, be printed for the use of the members previously to their being acted upon. Not carried.

On motion of William A. Brewer, it was Resolved, That in the future annual meetings of this Association, the nomination for President be made from the members at large, without regard to the precedent which has hitherto governed us in selecting that officer from the members in the place where said meetings are held.

A communication was received from M. J. Bailey, M. D., late Special Examiner of Drugs, at the port of New York, and laid on the table.

On motion of W. Procter, Jr., it was Resolved, That a Committee of two be appointed to report, to a future sitting, a list of subjects for members to investigate and report on next year.

W. Procter, Jr., and E. Parrish, were appointed by the chair.

It was moved and carried "that the Report of the Committee on the revision of the Pharmacopœia be printed for the use of the members before being acted on," which was carried.

It was moved and carried "that Reports of Committees be taken up in their regular order."

The Committee on "A Syllabus for Pharmaceutical Students," reported through their chairman, W. Procter, Jr., who stated that it was a duty requiring much time, and their labors had not been sufficiently perfected for publication.

On motion, the committee was continued, and requested to report to the next annual meeting; and if ready before that occasion, they were authorized to have the Syllabus printed and distributed to members only, for private examination and suggestions, prior to the said meeting.

On motion, the Chairman read several portions of the report to convey an idea of the character of the work.

The Report of the Committee on Weights and Measures being in order, the chairman, Prof. Guthrie, asked permission, which was moved and carried, that the first hour of the afternoon sitting be allotted to the reading of his report.

The Report of the Committee on the sale of Poisons, and the legal means of restraining it, was read by the Chairman, S. S. Garrigues, accepted, and referred to the Executive Committee for publication.

The Chairman of the Committee on Home Adulterations made some verbal remarks, stating that they had made no written report, owing to sickness, to the want of co-operation by other members of the Committee, and to the difficulties to be overcome in reporting facts and names, which had prevented it.

On motion, the Committee was discharged, and a new Committee nominated and elected, consisting of C. B. Guthrie, of New York, Alfred B. Taylor, of Philadelphia, Chas. T. Carney, of Boston, Alpheus P. Sharp, of Baltimore, and Wm. Fiske, of Cleveland.

On motion, adjourned to meet at 3 o'clock, P. M.

Second Day—Afternoon Session.

The Association was called to order at 3 o'clock, P. M., by the President, Charles Ellis.

The first business in order being the Report of the Committee on Weights and Measures, Prof. Guthrie read the document, and illustrated it with numerous tabular diagrams.

On motion, the Committee was continued, William Procter, Jr., and John Meakim added to it, and it was authorized to act with Committees from other bodies on the same subject.

The Report of the Committee on Unofficinal Formulæ was presented and read by its chairman, John Meakim. The report was accepted and referred to the Executive Committee for publication, with discretionary power.

On motion, the Committee was discharged, and the following Committee appointed, viz: John Meakim, New York, Alpheus P. Sharp, Baltimore, Edward Parrish, Philadelphia, W. S. Brewer, Boston, W. H. Peabody, Buffalo, H. A. Blauw, Rochester, W. H. Gilman, Washington, Joseph Laidley, Richmond, Wm. B. Chapman, Cincinnati, Wm. Fiske, Cleveland, James

Paine, Chicago, G. T. Chamberlain, St. Louis, T. R. Spence, Detroit, J. S. Melvin, Boston.

The communication from H. J. Bailey, M. D., of New York, referred to the Executive Committee this morning, was read and laid on the table.

The Report of the Executive Committee of last year was again read, and was adopted.

The Report of the Committee on the Progress of Pharmacy, was presented by W. Procter, Jr., Chairman of the Committee, who read various portions of the report, (the whole document being too long) so as to give the meeting an idea of its contents. Appended to this report was a statement by the present Drug Examiner at New York, Dr. Merkle, exhibiting the kinds and amount of drugs passed daily from June 1st, to August 31st, 1857, which was furnished at the request of a member of the Committee. The whole was referred to the Executive Committee.

On motion of T. S. Wiegand, it was Resolved, That the Report of the Committee on the Progress of Pharmacy be accepted, and that the thanks of the Association be tendered to that committee for their very able and interesting report, and that it be published in the proceedings in extenso.

The Report of the late Treasurer was read, and on motion was referred to a committee of two to audit, consisting of C. B. Guthrie and T. S. Wiegand.

Hennell Stevens, of Philadelphia, was proposed by the Executive Committee, and elected a member of the Association.

On motion, adjourned to meet at 9 o'clock to-morrow morning.

Third Day—Morning Session—Sept. 10th, 1857.

The Convention was called to order by the President. The Secretary called the roll, and read the minutes of the preceding meeting, which were adopted.

The attention of the Association was called by J. Meakim to the decease of one of its members, *Benjamin Canavan* of New York, in the following preamble and resolution, which were adopted and directed to be embodied in the minutes:

Mr. President,—While we have cause for thankfulness that during the past year the members of our Association generally have enjoyed health; it becomes my mournful duty to announce

to you that death has removed from us since our last meeting one of our most valued members. Benjamin Canavan, of New York, died in October last from hemorrhage of the lungs. Although attending to his duties until the day preceding his death, he had been infirm for many months previous, which prevented his active co-operation with us. He was a model pharmaceutist, and one of the noblest works of God, an honest man.

As a tribute of respect to his worth, permit me to offer the following:

Resolved, That the members of this Association have heard with regret that death has deprived them of their fellow member Benjamin Canavan, of New York. In his death our science has lost an ornament, and our Society a useful and respected associate.

An invitation was received by the Local Committee, inviting the members to an excursion to Laurel Hill, Fairmount, and other places, which was considered, and on motion it was resolved to accept it, and that it take place to-morrow afternoon.

The consideration of scientific subjects being now introduced, the reports of special investigations referred last year were called up seriatim, beginning with the following;

1. What are the actual sources of the light Cod-liver Oil of American commerce, both as relates to the species of fish that yield it, and the places where it is extracted? Is it adulterated with sperm or fish oil? and if so, is it done by the producers or collectors, or after it enters commerce?

Robert R. Kent of Boston not being present, Charles T. Carney of Boston made the following verbal statement:

In relation to Mr. Kent's paper on cod-liver oil, I would say that he entered upon the investigations of this subject very soon after our last meeting in Baltimore, and during several months of the last Fall and Winter he personally visited the fishing ground, and prepared from cod-livers of his own obtaining some very fine light oil, the most beautiful I ever saw. Mr. Kent made some quite singular discoveries in relation to the yield of this article from the livers; thus at one time the yield would be exceedingly large; and in a month, the same amount by weight of the livers apparently equally promising would yield scarcely any.

After collecting much information on this subject and many

statistics, Mr. Kent was so unfortunate as to suffer the loss of his shop by fire, and his specimens, papers, &c. on this subject were destroyed. I would recommend the Association to allow this question to remain simply unanswered, and will express the hope that the ensuing year Mr. Kent may be able to re-collect his memoranda, and at the next annual meeting favor us with the result of his investigations.

The request of Mr. Carney was acceded to, and Mr. Kent encouraged to pursue the course indicated.

2. The substance known in commerce as New England Isinglass, is said to be made from the intestines of the codfish. Query, where, and by whom, is the article of commerce prepared, what process does it undergo, what portions of the fish yield it, and what amount is obtained from a single fish?

This question was fully reported on by Charles T. Carney of Boston, which was accepted, referred to the Executive Committee for publication, and the Reporter requested to continue his inquiries and report next year in reference to the isinglass produced by the sturgeon and other fish in the great fresh waters of northern North America. [This report will be found in the sequel.—EDITOR.]

3. Has Iodine been manufactured in New England, from the Algaceous plants of that coast? If so, by whom, and to what extent? and what is the relative productive value of the Algæ of our own coast and those of Scotland?

H. T. Cummings, of Portland, to whom this subject was referred, said that last year, when about entering on the duty, he was informed that Thomas B. Porteus, of Boston, had already been engaged on that subject; that he saw Mr. Porteus, and urged him to prepare a paper in answer to the question of the Association, which he agreed to do, and he understood that the paper was in the hands of one of the Boston Delegates.

Mr. Colcord, of Boston, then made some remarks, showing that but little had been done in this country, owing to the difficulties of collecting the right species of sea weed—the iodine plants being those growing in deep water, always submerged, and only torn up from their native recesses by the violence of periodical storms, whilst those of the shore rocks contain but little iodine salts. He then read a long paper by Mr. Porteus,

on the actual history of the iodine manufacture of Europe, giving all the details of manufacture, statistics, etc., wanted, to aid any who may feel disposed to enter on the production in this country.

The paper of Mr. Porteus was referred to the Executive Committee, and the thanks of the Association directed to be tendered to the author. [See the sequel for this paper.—EDITOR.]

An invitation was received from Peter Williamson, Esq., Grand Master of Masons for Pennsylvania, to visit their Hall, which was accepted for this afternoon, with thanks for the courtesy.

Also, an invitation from Dr. Joseph Parrish, Superintendent of the Pennsylvania Training School for feeble-minded children, was accepted, and similarly disposed of.

4. The manufacture of Castor Oil as a branch of American industry. What is the estimated crop of beans for 1856, where grown, and what the amount of oil extracted up to August 1st, 1857? To what uses besides medicine is the oil put, and how far short of the domestic consumption is the production?

No communication having been received from Mr. Chamberlain, of St. Louis, to whom it was referred without permission, the subject was dismissed from the list.

5. It is said that Hyoscyamus niger has become naturalized in some parts of Michigan, in the neighborhood of Detroit. How does the medicinal power of this native grown plant compare with that of the best European grown drug?

Was reported on by F. Stearns, of Detroit, who read the report, and illustrated it with specimens of the plant, and several pharmaceutical preparations from it and the foreign leaves.

The paper was referred to the Executive Committee for publication.

6. What is the actual state of the production of volatile oils in the United States, and more especially in Ohio, New York, and New Jersey, as regards quantity, quality, and locality, together with remarks on the trade in volatile oils generally; their adulterations and tests.

This subject was accepted by E. S. Wayne, of Cincinnati, but no report being received, it was dismissed from the list.

7. What measures, if any, have been taken to introduce the culture of liquorice root into the United States, and to what extent have they succeeded?

This paper was referred without permission to Mr. Laidley, of

Richmond, from whom no report having been received it was discontinued.

8. Prof. Calvert, of Manchester, England, has asserted that the article known as "American lard," in the English market, is sometimes found adulterated to a considerable extent with the pulp of potatoes, or other starchy matter. *Query*, has this adulteration been noticed in the commerce of this country? If so, how is it is most easily detected by chemical or other means?

This question was reported on by Prof. Grahame, by whom it was accepted, and the report referred for publication.

9. Arnica flowers are largely used in the United States. Has any attempt been made to cultivate the plant in New York, New England, or other parts of this country, by the Shakers or others?

W. J. M. Gordon, of Cincinnati, reported on this subject in the negative, and his report was referred to the Executive Committee.

10. The medicinal power of Cimicifuga is generally admitted, its use is increasing, it belongs to a natural family, (Ranunculaceæ) embracing many active plants containing alkaloids, and yet the attempts hitherto made have not educed any distinct active principle. *Query*, to what distinct principle, if any, is the medicinal power to be attributed?

11. It has become proverbial that Digitalis of American growth has not the same amount of sedative power as the European leaf. *Query*, does American Digitalis yield a less proportion of digitalin than the imported, and is such digitalin equally active with that from the foreign plant.

These two questions were accepted by E. S. Wayne, of Cincinnati, from whom no response has been received. As Mr. Wayne had taken steps to produce these papers, and intended to have been at this meeting, these queries were continued over to another year in his charge.

12. The Elaterium plant grows readily in Philadelphia. Can it be availably cultivated with a view to the extraction of its peculiar product; and does the Elaterium it yields compare favorably with the English drug?

Edward Parrish read the answer to this query, and it was referred to the Executive Committee.

13. According to the most recent researches on Ergot by Winckler, that chemist obtained an alkaloid from it, which he believes to be analogous, if not identical, with propylamin, the odorous principle of herring pickle. It

is desired that the questions be determined, 1st, whether the volatile alkaloid of Ergot possesses the utero-stimulant power of the drug itself? 2d, Whether propylamin as obtained from herring pickle and from narcotin, possesses the same power as secalin? and 3d, in view of the result, what is the best formula for preparing a permanent fluid preparation of Ergot that will *fully* represent the drug?

W. Procter, Jr., made the report on this query, and exhibited specimens of muriate of secalin and fluid extract of Ergot. The paper was referred for publication to the Executive Committee, and the author requested to continue his attention to the subject, and report next year on those points not reached in the paper.

14. What is the correct history of the production of hemlock or Canada pitch, U. S. P., where chiefly produced, how extracted, and is it obtained by incision; also, where is the commercial oil of hemlock produced; is it the oil of the leaves; and what is the proportion yielded?

Charles T. Carney, reported verbally on this subject, that the information he was able to obtain was so unsatisfactory as not to justify him in making a written report. The oil of hemlock is obtained by distillation with water from the young boughs of Abies canadensis, but whence commerce is supplied or what is the yield of the leaves, he was not able to determine.

It was on motion carried to suspend the further reading of scientific papers till the afternoon session, and proceed to the regular business.

The report of the Committee "To consider and report upon the expediency of the Association participating in the work of the next decennial revision of the Pharmacopœia," being in order, it was on motion considered by paragraph.

The report is as follows:

That we should have a part in the decennial revision of the Pharmacopœia is pre-supposed by the resolution under which we stand appointed, and is in fact generally conceded, but how the cumbrous machinery of a national organization can be adapted to a work requiring such constant comparison of views and so many precautions and experimental researches, claims, and has received, our deliberate consideration. As a result of this we are prepared to recommend the following propositions.

1st. That a Committee of ten (10) members, shall be appointed at the present meeting to represent the pharmaceutical

knowledge and skill of the Northern, Southern, Eastern and Western States in a preliminary revision of the Pharmacopœia.

2d. The members of this Committee shall transmit to its Chairman, at least two months before the assembling of the Association, in 1858, such additions, modifications and omissions as a careful study of the Pharmacopœia, and their knowledge of the wants of their several localities, and of the profession at large, may suggest. From these the Chairman shall compile a report.

3d. At the meeting, in 1858, the report of the Committee of ten shall be received, but not acted on finally; it shall be referred to a Committee of three, elected by the Association, who shall thoroughly revise it, and subject each item to criticism and the test of experiment. They shall, at their discretion, omit or modify any of its parts, and make report at the meeting in 1859, when their proposed modification of the Pharmacopœia shall be finally acted on by the Association, and if adopted, directed to be forwarded to the Convention for revising the Pharmacopœia, to meet in Washington, in May, 1860.

4th. The Association not being included in the classes specified as entitled to representation in the Pharmacopœial Convention, it is recommended that the report or the revision, after being adopted by it, shall be placed in the hands of the delegates from one of the Incorporated Colleges of Pharmacy, to be by them offered to the acceptance of the Convention.

Your Committee believe that whatever might be the fate of the modifications suggested in this way to the Convention and its Committee, good would undoubtedly result from a plan adapted to draw out so free an expression from the widely separated localities represented, and to subject these to a rigid examination in the hands of a competent Committee of revision.

Believing that this Association, representing, as it does, a large body of those for whom the Pharmacopœia is ordained, and who have no other channel through which to be represented in its revision, will naturally be looked to, in the future, to cooperate in giving authority to our National Code; and that the important interests it has in charge, generally, will be promoted by giving to its organization the sanction of law and such a permanence of location as will not entirely interfere with its migratory character; it is suggested that a charter should be

obtained from Congress and a permanent depository established in Washington, D. C., at which Capital the meetings should be held at intervals of perhaps five years, the intermediate meetings being changed annually as at present.

These suggestions, though not strictly within the scope of this report, are induced by the prospect of a representation in the Pharmacopœial Convention, and are submitted for the consideration of the Association, by

EDWARD PARRISH,
W. B. CHAPMAN,
SAML. M. COLCORD,
JOHN MEAKIM.

On motion the first and second propositions were taken up, fully discussed, and adopted.

On motion, it was ordered that a committee to nominate ten members for a Pharmacopœia Committee, and report at a future sitting, be appointed by the Chair. This duty was entrusted to Frederick Stearns, W. Procter, Jr., and S. M. Colcord.

The *third* and *fourth* propositions were, after considerable discussion, laid on the table until the next annual meeting.

The Executive Committee now made a special report in reference to the subject of Drug Examiners, in obedience to a duty referred to them last year. From the Report it appears that the Committee addressed a letter on behalf of this Association to the Hon. Howell Cobb, Secretary of the Treasury, and similar action was taken by the Massachusetts College of Pharmacy, backed by the Medical Society of that State, which appears to have received no consideration, as, since that event the long tried Examiner at New York has been displaced, under circumstances which convince the Committee that government continues to look upon the office of Examiner of Drugs as a fitting reward for political partizans, rather than as a highly important guardianship of one of the most important interests of the whole country.

The Committee also recommended an application to Congress, to so modify the law as shall make the appointment require the assent of the U. S. Senate, in furtherance of which view the following resolution was adopted and referred to the Executive Committee:

"*Resolved*, That a Committee be appointed to memorialize

the next Congress in the name of this Association, for such amendments to the drug law as shall place it upon a better basis, and make it a more effectual protection to the community and the interests of the apothecaries."

Then adjourned to 3 o'clock, P. M.

Afternoon Session.

The Association was called to order by the President at 3 o'clock.

On motion, a committee was appointed, to examine and report on the various specimens and apparatus on exhibition in the Hall, consisting of S. M. Colcord, W. Procter, Jr., and J. Meakim.

O. S. Hubbell, of Philadelphia, was proposed, balloted for, and elected a member of the Association.

A resolution to provide for the better preservation of the documents of the Association was laid on the table.

The appeal brought forward by the Committee on Poisons as an appendage to their report was again read, and by resolution adopted, and directed to be published in the proceedings.

AN APPEAL TO THE PHARMACEUTISTS AND DRUGGISTS OF THE UNITED STATES.

The American Pharmaceutical Association, at the suggestion of a committee appointed by it to report upon "*the subject of the Sale of Poisons*," does respectfully submit to the Pharmaceutists and Druggists of the United States the following suggestions, in relation to regulating the sale of poisons:

From the diversity of opinion among Pharmaceutists in relation to the value and force of direct legislative action in restricting the sale of poisonous substances, the Association does not deem it desirable to attempt at present the passage of laws in the different States bearing upon the subject; but in place, offers to the Pharmaceutist such suggestions as are deemed expedient under existing circumstances.

The Association suggests, That the Pharmaceutist should adopt rules in dispensing of poisons, by which he may remove from himself the responsibility of selling poisons for disreputable purposes, and protect the public, both from mistakes occurring in his own premises, and from the use of poisons for unlawful and criminal purposes.

The Association therefore offer the following suggestions:

That, in selling any substance which would prove fatal in a dose of 60 grains by weight, or a fluid drachm by measure, you consider it *poisonous*,

and mark the word "poison" in a distinct and unmistakeable manner upon the label or package.

That you consider the poisonous alkaloids and the like powerful substances *deadly poisonous*, and so mark each package or label.

That you make it an invariable rule, to have every package of medicine dispensed at your counter plainly marked, whether it be an innocent or poisonous one.

That you, for the purpose of distinguishing by the aid of color as well as words, have the labels of the furniture of your establishment which contains poisonous substances, (as designated in this paper,) of a peculiar color, one distinct from that of the rest of your labels. That you keep such furniture by itself, in order that it may not cause remark by customers; or, that in place of this suggestion, you adopt the practice of placing upon each bottle, or drawer, or package, of such poisonous substances, some symbol, such as a bright red piece of paper, a triangle, or Greek cross, or of other suitable form, thus giving the eye an additional means of cautioning you when handling such substances.

That you print your dispensing labels for poisons upon a paper of an entirely distinct color from that upon which your ordinary ones are printed.

That in dispensing prescriptions containing poisonous substances, while you cannot mark such "poisonous" unless so directed to do by the writer of the recipe, yet by marking a symbol in red ink upon the label of the medicine, you may avoid any mistake in its repreparation, in putting up a poisonous for an innocent one.

That, as an additional precaution, you adopt the practice of placing bands of rubber around the necks and over the stoppers of bottles containing poisonous medicines in frequent use, or in some other manner delay slightly the opening of the bottle, so as to form an additional security and caution against mistake.

That in preparing prescriptions you adopt this course: first, carefully and understandingly read the recipe; then prepare it; then copy the recipe into a book provided for the purpose, with its date; name of prescriber and name of patient and directions; finally, place the number corresponding to the one on record upon the original recipe and the label, before delivering the medicine. In this way any possible error in first reading the recipe may be discovered in recording it; and secondly, you have a guide in the patient's name, by which you may avert evil consequences, should an error be discovered after the medicine has left the store.

That you provide yourself with a book, in which to record every sale of poison, stating in each entry the date of sale; to whom sold; for what purpose desired; the quantity sold, and price received. This can be used as evidence in case of any blame being attached to you in case of accident resulting from articles purchased of you.

That you consider yourself morally responsible to the community in which you live, when there may be no legislative control to the sale of

poisons, and that you be particular when furnishing poisons to applicants for such, to assure yourself by the appearance of the customer and by proper enquiry of them, that no disreputable, illegal or criminal purpose is intended.

That you require a written order from a physician or other responsible party to accompany any application for a poisonous substance presented by a person under fifteen years of age.

That in all cases in dealing out poisons in your business to applicants in person, you be particular to caution them in regard to the properties and proper methods of employment of the substance which they are to receive.

That you entirely refuse to dispense oils of savine and tansy, of ergot, and of substances of similar effect upon the economy, unless upon the written prescription of a physician.

The Association is led to believe that no legislation upon this subject, however strict, will completely protect the public against the acts of the evil doer, in employing poisons to attain his purpose. Yet it trusts that this appeal to pharmaceutists, many of whom may not yet have felt the force and weight of the responsibility resting upon them, will awaken them to a sense of their accountability, morally and otherwise, and be conducive to individual safety and public welfare.

The committee appointed to nominate ten persons to carry out the views of the Association in reference to the revision of the Pharmacopœia, reported the following, viz:

For the New England States—Charles T. Carney, of Boston; James Melvin, of Boston; and Henry F. Fish, of Waterbury, Connecticut.

For the Middle States—John Meakim, of New York; Edward Parrish, of Philadelphia; I. J. Graham, of Baltimore.

West and North West—F. Stearns, of Detroit; W. J. M. Gordon, of Cincinnati.

Southern States—A. E. Richards, of Plaquemine, La.; Robert Battey, M. D., Rome, Georgia.

Which were accepted as the committee for that service.

Samuel Chapman, of Philadelphia, was proposed and elected a member of the Association.

It was on motion Resolved, That the suggestion of the Executive Committee of the past year in regard to an act of incorporation from Congress for the Association, be referred to the Executive Committee.

D. L. Dyson, of Washington, presented a blank copy of the certificate of membership of the Pharmaceutical Association of

the District of Columbia to the Association, on behalf of the body he represented, which was accepted.

The reading of scientific papers being in order, R. H. Stabler, of Alexandria, read an answer to the following question.

15. On what proximate principle does the anthelmintic power of Spigelia depend; is it volatile, and is the odor of the drug a good criterion of its quality; is said principle soluble in water; and what effect have the carbonated alkalies upon it?

The paper was referred to the Executive Committee for publication. [See the sequel for this paper.]

16. Dr. Wright, of Kentucky, has recently recommended the bark of Liquidamber Styraciflua, as a remedy in diarrhœa and dysentery, made into a syrup with cold water. He likewise states that the resinous exudation which this tree produces at the South, is obtainable by incision from the tree in the States bordering on the Ohio river, and that the Kentucky product contains benzoic acid and Styracin. It is desirable to have the latter statement corroborated; and *if* verified, the per centage of benzoic acid it will yield, and the practicability of obtaining it as an article of commerce.

Valentine Harbaugh, of Washington, not having reported on this subject, Prof. Procter made a verbal statement that Daniel Hanbury, of London, had answered the question so far as to determine that the acid in this resin of liquidamber is not benzoic but cinnamic acid.

17. To what extent is the fecula of the Maranta arundinacea produced in the States of Georgia and Florida, and what impediments prevent its being made to rival that of Bermuda, in beauty and excellence?

This subject was referred, without permission, to Robert Battey, of Georgia, but no report has been received.

18. What are the most approved methods of rendering medicines palatable to the taste and pleasing to the eye?

Frederick Stearns, of Detroit, read a long and interesting report on this subject, illustrated by various specimens of glyceroles or syrups in which glycerin takes the place of sugar—remarkable for transparency and beauty.

This paper elicited many remarks, and was directed to be published in the proceedings.

19. What are the present sources of Senega, Serpentaria spigelia and other prominent American roots, etc., as supplied in commerce?

C. B. Guthrie, to whom this subject was referred, not being ready to report it was continued to him till the next Annual meeting.

The Committee appointed to prepare a list of subjects for investigation, reported progress, and were requested to report in full in the morning.

On motion of Wm. A. Brewer, of Boston, it was ordered that a copy of the proceedings of this Association be addressed to each of the Boards of Trade in our principal cities, to the several medical and scientific societies in the several States, and to the Smithsonian Institution at Washington, together with such educational institutions as the Executive Committee, who shall have charge of this matter, may direct.

Then adjourned to 8 o'clock this evening.

Evening Session.

The Association was called to order by the President at 8½ o'clock, who stated that the object of the meeting was chiefly for hearing extemporaneous and other communications.

Charles A. Heinitsh presented the notes of a case of strychnia poisoning, which were read and laid on the table.

On motion it was voted,—That the thanks of this Association be tendered to James T. Maxwell, of New York, for a handsome specimen of Myristica—nutmeg and mace—preserved in alcohol.

It was moved and carried that the discussions for the remainder of this session be limited to ten minutes for each member.

A paper was read by Edward Parrish, on "Ethical Analysis," which was accepted and referred to the Executive Committee.

This paper elicited considerable discussion, and on motion it was Resolved, That Edward Parrish be requested to answer the questions contained in his paper just read, and that other members be requested also to answer them, at the next annual meeting.

Frederick Stearns read a paper on Citrate of Magnesia, and another on the production of leeches in Michigan; the latter paper was illustrated by living specimens of two species of indigenous leeches, exhibiting the mode in which the young are developed on the abdomen of the parent.

These papers were accepted and referred for publication.

On motion it was Resolved, That the following committee be

appointed to memorialize Congress to amend the Drug Law, to act instead of the Executive Committee, viz.

C. B. Guthrie of New York, Wm. A. Brewer of Boston, and Richard H. Stabler of Alexandria.

Wilson H. Pile, M, D., of Philadelphia, was proposed by the Executive Committee and elected a member.

On motion adjourned to meet at 9 o'clock to-morrow.

Fourth Day—Morning Session—Sept. 11th.

The Association was called to order by the President.

This being the last session of this annual meeting, it was moved and carried, that calling the roll and reading the minutes be dispensed with.

On motion of Edward Parrish it was resolved,—That a handsomely bound copy of "Dorvault's l'Officine" be voted to Frederick Stearns of Detroit, for his able paper "on Eligible Modes of rendering medicines palatable and pleasing," which was unanimously carried.

Elias Durand, of Philadelphia, was proposed by Charles Ellis, W. Procter, Jr., and Dillwyn Parrish for honorary membership. A ballot was held, which resulted in an unanimous election.

The Committee appointed to examine the various articles on exhibition to the Association, made the following report:

To the American Pharmaceutical Association :—

The Committee appointed in reference to the articles on exhibition to the Association, report, that they find a variety of chemical preparations, and chemical and pharmaceutical apparatus, together with numerous specimens of minor interest, arranged on the tables. The Chemicals from Messrs. Rosengarten & Sons include forty-one varieties, among which we would particularly notice Sulphate of Quinia, Nitrate of Morphia, Nitrate and Acetate of Strychnia, Valerianate of Morphia, Piperin, &c. Those from Powers & Weightman are particularly rich in alkaloids and their salts, among which are pint bottles of Codeia, Morphia, Cinchonia, Strychnia in crystals, Sulphate of Quinia, Morphia and Quinidia, in gallon and two gallon bottles, Caustic Potassa, Iodide of Arsenic, and beautifully crystallized Iodides of Lead and Mercury. Messrs. Garrigues, Magee & Mayer, exhibit Pyrogallic Acid, Bromide and Iodide of Cadmium, Bromide and Iodide of Ammonium, and Nitrate of Magnesia. Messrs. Bullock & Crenshaw's collection includes several of interest, as Bi-sulphuret of Tin, Oxides of Chromium and of Nickel, Sulphate and Carbonate of Nickel; Nitro-prusside of Sodium, and Molybdate of Am-

monia. Hennel Stevens' group, though not numerous, is particularly *recherché*, consisting of Valerianic Acid, Valerianate of Ammonia, Amylene, Iodide of Ethyl and Iodoform. Dr. W. H. Piles' collection of Hydrometers and Specific Gravity Bottles attracted considerable attention. S. P. Peck, of Bennington, Vermont, exhibited specimens of Porcelain and Wedgewood Mortars and Funnels, of Vermont manufacture. Among the other objects of interest we observed a small Beindorf apparatus; a Nichols' patent improved Combination Fountain, with draught apparatus and coolers, deposited by T. M. Perot & Co.; a beautiful block tin Still and Condenser, Gas-burners, Lamp stands, Lamps, &c., from Garrigues, Magee & Mayer, of Philada.; and a variety of Syrups, for mineral water, by E. H. Hance, of Philadelphia. The quality and beauty of a great proportion of the Chemicals exhibited demands our unqualified approval, and speaks well for this branch of American manufactures.

SAML. M. COLCORD,
W. PROCTER, JR.,
JOHN MEAKIM.

On motion, the report was adopted and referred to the Executive Committee.

The following resolution, offered by John Buck of Massachusetts, was carried without dissent.

Resolved, That the thanks of the American Pharmaceutical Association be respectfully tendered to the Philadelphia College of Pharmacy, for the ample accommodations with which we have been provided and the very agreeable manner in which we have been entertained.

The following was offered by Prof. Procter:

Whereas, the dispensing of medicines on the extemporaneous prescription of physicians is the most important of the duties of the pharmaceutist, involving a large amount of ready knowledge and skill, and as the demand for this knowledge is very frequently required at a moment's notice, when delay might seriously retard the recovery of the patient and impair the usefulness of the physician, and as the feeling of responsibility, at all times great, becomes often oppressively burdensome through the careless manner in which prescriptions are frequently written, and their quantities symbolized, it is hereby

Resolved, That this Association, speaking for the pharmaceutical profession of the United States, do most respectfully and earnestly desire that the grave importance of this deficiency,

and the many evils which arise out of it in the dispensing of medicines, will claim anew the action of the Medical Societies of the United States, with a view to influencing those of their members to whom the charge applies; and while fully aware of the numerous imperfections which appertain to our own practices and practitioners, and which we are striving to overcome, we believe that the co-operation of physicians in the manner suggested will greatly aid our endeavors.

The resolution was adopted.

A paper on indigenous plants, by J. M. Maisch, of Philadelphia, was read, accepted and referred to the Executive Committee.

Dr. Geo. B. Wood and Dr. Franklin Bache were proposed by S. P. Peck, W. J. M. Gordon and Chas. Ellis, for honorary membership, and unanimously elected.

The following resolution was offered by James Gordon:

Resolved, That the thanks of this Association are due, and are respectfully tendered to the President, for the efficient and impartial manner in which he has presided over our deliberations, to the Secretary for the able manner in which he has performed the arduous duties of his office, and to the late second Vice President for his attention to the duties of the chair during the organization of the meeting.

The resolution was agreed to.

On motion, the resolution of Prof. Guthrie, fixing a place of meeting, was called up, and the following resolution was offered and carried.

Resolved, That the next meeting of this Association he held in the city of Washington, on the second Tuesday of September, 1858, at 3 o'clock, P. M.

[It should be observed that an invitation had been previously extended by S. E. Tyson of the Washington Delegation, inviting the Association to meet next in that city.—EDITOR.]

The list of subjects for investigation during the ensuing year being now ready, they were read, with the names of the acceptors or referees, and adopted by the Association.

The Report is as follows:—

The Committee appointed to bring forward subjects for investigation during the ensuing year offer the following, viz:

1. The medical plants of Michigan.

Accepted by Frederick Stearns, of Detroit.

2. The process of displacement or percolation; what are the conditions and precautions which will give it the greatest simplicity and efficiency as a means of extraction in practical pharmacy?

Accepted by Prof. I. J. Grahame, of Baltimore.

3. What are the best means of keeping the vegetable extracts, and especially those from narcotic plants, in the dispensing shop, so as to avoid to the fullest possible extent the inspissation and alterations to which they are subject by unavoidable exposure in dispensing?

Accepted by Prof. I. J. Grahame, of Baltimore.

4. Liebig (Agricultural Chemistry, American edition, page 184,) says that the nicotina of commercial tobacco does not pre-exist in the growing plant, but is the result of the fermentation set up during the curing process. Question,—If this be true, what is the active principle of green tobacco, and what relation does it bear to nicotina?

Accepted by Wm. Procter, jr., of Philad.

5. Wine of Ipecacuanha. What is the cause of its tendency to deposit a sediment—has that sediment any medical value—and can the deposition be avoided by substituting another menstruum of the strength of wine?

Accepted by Joseph Roberts, of Baltimore.

6. Blue pill mass is coming into use in the form of powder. Question,—Does the condition of the mercury undergo any change by the ordinary exposure in the shop, as regards oxidation—does this powder, after being prepared a year, contain any red oxide of mercury—and what is the best process for its preparation?

Accepted by Charles Bullock, of Philadelphia.

7. The subject of coating pills with sugar, mucilage, gelatin and other soluble substances, so as to mask their taste, is becoming of some importance in practical pharmacy. Question.—What are the best materials for this purpose; and what the best and most practicable process for effecting it, both on a large scale, and extemporaneously in the course of dispensing? *Accepted by John Canavan, of New York.*

8. The preparation of Saccharides, or sugar in the form of powder and granules, impregnated with medicinal substances, so as to facilitate their administration. What is the best process or processes applicable to this object; and what is the best proportion of sugar to include a dose of the respective drugs or preparations?

Accepted by Eugene Dupuy, of New York.

9. Mustard. What is the best formula for a permanent liquid preparation of white or black mustard seeds that may be used as a substitute for mustard plasters?

Accepted by Edward Parrish, of Philadelphia.

10. Podophyllin is alleged to be analogous to Jalapin in its medical and some of its chemical relations. Question,—What is the correct chemical history of Podophyllin, as regards its solubility in menstrua, its relations to the alkalies, and other agents, &c., and why may it not be advantageously substituted for extract of jalap in the compound cathartic pill, and for scammony in the compound extract of colocynth?

Accepted by R. H. Stabler, M. D., of Alexandria.

11. Dr. Stenhouse has investigated the volatile oil and stearoptine of Xanthoxylum piperitum or Japanese pepper. (See Am. Jour. Pharm. Sept., 1857.) Question,—1. What is the true botanical source of what is called "Southern Prickly Ash bark?" 2. Does the pungency of that bark and the bark and fruit of Xanthoxylum fraxineum of our Pharmacopœia depend on the same principles?

Referred to Edward S. Wayne, of Cincinnati.

12. What influence is exerted in the *normal* solvent power of officinal water, alcohol and ether, by their admixture with each other as pharmaceutical menstrua, in regard to the solution of various vegetable principles, (like gum, sugar, starch, albumen, resins, volatile oils, etc.,) desirable or to be avoided in making preparations?

Accepted by Wilson H. Pile, M. D., of Philadelphia.

13. A monograph on the Cerasus serotina, or wild cherry bark, tree and its products useful in medicine.

Accepted by Wm. Procter, Jr., of Philadelphia.

14. The Brazil nut of South America yields a fixed oil in abundance. Question, How and to what extent is it manufactured in Brazil, to what uses put; and whether, is it applicable or not to the uses of olive oil in Pharmacy? *Accepted by Edward Donnelly, of Philadelphia.*

15. Are the barks of Cornus florida and other species of this genus, due to a crystalline substance? Is this principle alkaline, acid or neutral? Will it answer as a substitute for Quinine? and can it be advantageously manufactured at a low price?

Accepted by John M. Maisch, of Philadelphia.

16. There being great diversity in practice as regards the powder to be employed in rolling pills:—Question, What is the best powder or compound of powders, uniformly to be used in rolling pills, not required to be masked or coated with sugar, gelatin, or other substance?

Accepted by William A. Brewer, of Boston.

17. The refraction of light by the English Essential Oil of Bitter Almonds being often regarded as an important proof of its purity:—Question, What is the value of this phenomenon of iridescence of Essential Oil of Bitter Almonds as a test of its purity?

Referred to John T. Fuller, of Detroit.

18. What is the correct history of the production and sources of supply of Hemlock or Canada pitch, of Balsam of Fir, and of Oil of Hemlock; and to what extent are they produced in the New England States and Canada? *Accepted by S. P. Peck, of Vermont.*

19. The Elaterium plant grows readily in the neighborhood of Boston. Can it be availably cultivated with a view to the extraction of its peculiar product, and does the Elaterium it yields compare favorably with the English drug in medicinal power.

Accepted by John Buck, Chelsea, Massachusetts.

20. To what extent is the fecula of Maranta Arundinacea produced in Georgia, Florida, and other Southern States, and what impediments prevent its being made to rival that of Bermuda in excellence and beauty.

Continued to Robert Battey, M. D., of Rome, Georgia.

21. What is the extent of the culture and production of sugar from the Sorghum saccharatum within the U. S. in the present year; what inference may be drawn therefrom of its value as a source of this important article; and what is the composition, and saccharine per centage of the juice compared with that of the sugar cane.

Referred to Robert Battey, M. D., of Rome, Georgia.

22. What are the present sources of Senega, Spigelia and other prominent American roots, etc. as supplied by commerce?

Continued to Prof. C. B. Guthrie, of New York.

23. What is the actual state of the production of volatile oils in the United States, and more especially in Ohio, New York, and New Jersey, as regards quantity, quality and locality; together with remarks on the trade in volatile oils generally?

Referred to Edward S. Wayne, of Cincinnati.

24. What is the practical value of nitro-prusside of copper, iodine and other tests which have been proposed for detecting the adulterations of volatile oils? *Accepted by John M. Maisch, of Philadelphia.*

25. Can arnica flowers be profitably cultivated in the United States?

Suggested by resolution of the Association to Henry A. Tilden, Esq., of New Lebanon, New York.

26. The Silphium laciniatum or resin weed of our western prairies yields a resinous exudation in appearance like mastic. What is the character of this resinous product, can it be substituted for mastic, and to what extent may it be collected as an article of commerce?

Accepted by Edwin O. Gale, of Chicago, Illinois.

27. What are the present sources of American Castor and the method of preparing it for commerce? *Accepted by T. R. Spence, of Detroit.*

28. The subject of the professional intercourse between physicians and pharmaceutists. *Accepted by Samuel M. Colcord, of Boston.*

29. What are the actual sources of the light Cod-liver Oil of American commerce, both as relates to the species of fish that yield it, and the places where it is extracted? Is it adulterated with fish or sperm oil? and if so, is it done by the producers or collectors, or after it enters commerce?

Continued to Robert R. Kent, of Boston. (*See page* 492.)

30. What are the impediments, if any, to the extensive culture of the liquorice plant (Glycyrrhiza glabra) in this country; and what essays have been made towards its introduction?

Referred to Thomas P. James, of Philadelphia.

31. It is well known that many pharmacuetial preparations deteriorate by keeping: what are the most prominent instances of this kind of change; what are the best means of preventing or moderating them; and in cases of partial deterioration of valuable medicines, what is the best disposition to be made of them to avoid loss?

Accepted by Edward Parrish, of Philadelphia.

32. Are any of our native wines applicable for use in pharmacy as a menstruum; are these wines the subject of adulteration; and can the brandy derived from our native wine growers be properly substituted for the *Spiritus vini Gallici* of the Pharmacopœia?

Accepted by Frederick Stearns, of Detroit.

The Committee recommend that the Executive Committee be empowered to add to the above list of subjects in case they can get them accepted for investigation.

WILLIAM PROCTER, Jr.
EDWARD PARRISH.

On motion it was Resolved, That the Chairman of the Committees "On the Preliminary Revision of the Pharmacopœia," and on "Home Adulterations," shall have power to draw on the Treasurer for the expenses incident to their labors.

Oliver F. Gordon, of Cincinnati, was proposed and elected a member of the Association.

Henry F. Fish, of Connecticut, having been obliged to return home from indisposition, before he had communicated to the Association some remarks relative to lacs and varnishes; on motion, it was voted that he be authorized, if disposed, to send his communication to the Executive Committee for publication.

Theodore Metcalf, of Boston, proposed by the Boston delegation, and brought forward by the Executive Committee, was balloted for and elected to membership.

On motion of Edward Parrish, it was

Resolved, That the Executive Committee be authorized, after furnishing at least three copies of the Proceedings to each member, and distributing such number as they may deem best, to scientific Institutions, Editors, Libraries, &c., to hold the balance for sale at such price as shall cover the cost of publication and postage.

The Minutes were now read, the Roll called, and the Minutes approved, when, on motion, the Association adjourned to meet next year in accordance with previous resolution.

W. J. M. GORDON, *Secretary*.

REPORT ON SPIGELIA.

By R. H. STABLER, M. D.

To the American Pharmaceutical Association:

The subject entrusted to me at the meeting of last year being strictly an experimental one, I shall confine my remarks to a detail of the methods pursued in the investigation and the conclusions drawn from them.

Twelve ounces of spigelia root was macerated in two gallons of water for twenty-four hours and seven pints distilled off into a narrow necked receiver; numerous white flakes rose to the top and were carefully collected in the narrow portion of the neck, and separated from the remainder of the liquid for examination.

It had a pungent odor and taste, unctuous feel, was soluble in alcohol and ether; to water it communicates its sensible properties, but is only soluble in small quantities in that menstruum; has a granular appearance under the microscope; carbonate of potassa renders it soluble in water, but destroys its taste and odor. The decoction remaining in the still was separated by expression from the root, treated with solution of sub-acetate of lead to excess, filtered, and the excess of lead separated by carefully adding dilute sulphuric acid until it ceased to cause a precipitate; again filtered, the filtrate evaporated over a steam bath to the consistence of a soft extract. Ninety-five per cent. alcohol was made to dissolve all this residuum soluble in it, which left a tasteless brown extractive. The tincture was filtered off, passed through a bed of animal charcoal to decolorize it, evapor-

ated over a steam bath and treated with ether, which did not dissolve any portion of it. This substance has a reddish brown color, is uncrystallizable, neutral to test papers, deliquescent, and hence difficult to retain in the solid form, soluble in water and alcohol, insoluble in ether, and like the products of other members of the order Loganiaceæ, has an intensely bitter taste.

Carbonate of potassa or soda do not affect its sensible properties; solution of per-chloride of iron or sub-acetate of lead do not precipitate it from solution; infusion of galls appears to be incompatible with it, causing a precipitate when added.

When heated with liquor potassa and tested by muriatic acid, vapor evidence of the presence of nitrogen was afforded. It froths with water when shaken with it, and when taken internally causes vertigo and headache. Whether the vermifuge properties of the root reside exclusively in this principle, experiment only can determine, which has not yet been done for want of opportunity; that it has the active principle of the root in an eminent degree I am convinced by the experiments on my own person, producing the narcotic effects attributed to the plant.

Another portion of root in coarse powder was exhausted with hot water, the infusion expressed from the marc, the latter then treated by maceration in eighty per cent. alcohol and displaced with more of the same menstruum, until it passed without color; the alcohol was evaporated by a gentle heat, when a brown resin separated having neither taste or smell if purified from the bitter principle above mentioned, and is, I believe, inert.

A third portion of root, in coarse powder, was treated with ether by displacement until it ceased to extract color from it; this was exposed in a shallow dish and allowed to evaporate spontaneously; the extract left was exhausted with boiling water, filtered, and solution of per-chloride of iron added, which gave a bluish black precipitate. The portion not soluble in hot water was a soft wax which gave out a pungent odor when heated, owing to its being impregnated with the volatile oil of the root.

The constituents of the root according to this analysis are

1. A bitter, uncrystallizable, proximate principle.
2. A volatile oil.
3. Tannin.
4. Inert extractive.

5. Wax.
6. Inert resin.
7. Salts of soda, potassa and lime.
8. Lignin.

In answer to the questions proposed at the last meeting of the Association, in 1856, I would submit the following, as warranted by the above data.

1st. The activity of Spigelia Marylandica resides in an acrid, bitter, proximate principle, soluble in water and alcohol, insoluble in ether; it is not volatile, is uncrystallizable, neutral and deliquescent.

2nd. The volatile oil, to which the feeble odor of the root is believed to be due, exists in small quantity only, and does not appear to contribute essentially to its activity; this odor is strongest in the fresh root, and as all vegetable remedies deteriorate by exposure and age, the odor of the root is an indication of its freshness only, and as such valuable, but cannot be regarded as an invariable criterion of activity.

3rd. Water and alcohol are equally good solvents of the active principle.

4th. The carbonated alkalies do not diminish its activity.

From the Proceedings of the American Pharmaceutical Association, 1857.

REPORT ON NEW ENGLAND ISINGLASS.

By Charles T. Carney, of Boston, Mass.

At the last meeting of this Association, in Baltimore, was committed to me for investigation the substance known in commerce as New England Isinglass, with a view of ascertaining where and by whom the article is prepared and its mode of manufacture.

I have the honor to submit herewith such information as I have been able to gather upon this subject, and, in addition, I venture some remarks upon other kinds of fish isinglass, and modes of manufacturing the same, believing it a subject worthy attention.

Ichthyocolla, from two Greek words, meaning fish and glue, is mentioned by both Dioscorides and Pliny; the latter of these writers ascribes its invention to Dædalus. It is obtained from

various fishes, some only of which have been hitherto ascertained. The finest kinds are obtained from various species of the Acipenser, but fish from other genera, viz., Gadus, Morrhua and others also yield it.

The organ from which the isinglass is usually procured is the air bag or swimming bladder, sometimes termed the "sound."

This is a membranous sac filled with air, (containing from 69 to 87 per cent. of oxygen) placed under the spine in the middle of the back, above the centre of gravity. In most fish this sack communicates with the œsophagus or stomach by the "ductus pneumaticus;" in others it is an imperforate sac, and occasionally there are two sacs which communicate with each other.

As long ago as the year 1772 the manufacture of isinglass from fish was considered of enough importance, by Mr. Humphrey Jackson, of England, to become the subject of careful study; failing in his endeavors to ascertain in England the process followed, he took a journey into Russia for the purpose of arriving at the true mode of manufacture.

In his paper, published in vol. lxiii. of Phil. Transactions, he says all authors who have hitherto described processes for making ichthyocolla, have greatly mistaken both its constituent matters and preparation, and cites in support of this assertion the remarks of M. Pomet upon this subject.

The latter author says, as to the manner of making the isinglass: "The sinewy parts of the fish are boiled in water until all dissolve that will; the gluey liquor is strained and cooled; after cooling, the fatty portion is removed carefully from the surface, the liquor itself boiled down to a proper consistency and cooled, cut in pieces, twisted into crescent shape and carefully dried upon sticks.

From this we could reasonably infer that all fish containing gelatinous matter could be used with advantage for the manufacture of this article, but the inference would be an erroneous one.

The sounds or bladders of fresh water fish in general are preferred for making the best and most delicate isinglass, but the article known in commerce as "American" is made from the air vessels of salt water fish.

It is a matter worthy consideration whether we cannot furnish

from the sturgeon of our own rivers, isinglass that will equal that of Russia, which is derived from the sturgeon taken in the Caspian sea and rivers emptying into its basin.

The sounds or air vessels of the cod and hake bear great analogy with those of the Acipenser genus of Linnæus, and are in general so well known as to require no particular description.

Ichthyocolla is prepared in considerable quantities by the Newfoundland and Iceland fishermen. Their process is as follows: As soon as the fish is taken, they are split open, and the backbones, with the sounds attached, are thrown together in a heap; but previous to incipient putrefaction the sounds are removed from the bone and salted for preservation. If the sounds are cut out from the back-bone, the intercostal parts are left behind; these parts are the most valuable, and the Iceland fishermen are so sensible of this that they beat the bones upon blocks until the "pockets," as they term them, come out easily, thus preserving the sounds entire.

If the bladers are preserved with salt this must all be removed by "freshening" in water before they are prepared as isinglass. After being thoroughly freshened, they are scraped free from all adhering mucous, slit open, washed with lime water to remove all oleaginous matter, then rinsed in clean water, and dried upon nets in the sun.

I am indebted to the kindness of Jabez R. Gott, Esq., of Rockport, Mass., for most of the information and statistics relating to the manufacture of the article known as New England isinglass. Mr. Gott is the oldest, and, in fact, the only manufacturer of this article known to me.

As early as the year 1822, or thereabouts, his process was the subject of a patent in this country; since that time experience has done much to simplify and improve the mode of manufacture.

I learn from him that the sounds or air vessels of the hake (Gadus mertuccius) are generally used, those of the cod having the disadvantage alluded to in speaking of the Iceland fishery process.

The sounds are collected by parties residing upon the seacoast of Cape Ann, and brought to Rockport for sale.

They are preserved by drying simply. After being taken from the fish, they are split open, cleansed from all membranous matter and dried upon cords or nets. It is preferable to dry them in this way rather than upon boards or sticks, as while the sounds are soft and wet, much of the gelatinous matter is absorbed by the latter substances, which decreases materially the value of the article for manufacturing.

After being again soaked in water until of a proper softness they are passed through rollers which knead them into a uniform pasty mass, resembling very much in appearance the dough of rye or Indian bread, and assume the form of a large, thick, homogeneous sheet.

This sheet is divided into strips, which are run through rollers again and again until reduced to the required thinness. These ribbon-like strips, after becoming thoroughly dry, are folded into bundles without much regard to the weight of each, and constitute the article, familiar to all in the trade, known as American Isinglass or Fish Glue.

The amount annually made is about 6,000 pounds, which is manufactured in the winter season, labor being at that time more available than in summer.

The amount yielded by each fish will average about two ounces, and this fact will suggest the number of fish laid under contribution for this article. The sounds are preserved during the warm weather simply by being thoroughly dried, and assume the hard, horny appearance of those herewith submitted, 1, 2, and 3, which are the sounds of the hake fish. I also submit specimens of the manufactured article. New England isinglass finds its way into commerce chiefly through the New York market.

In this connection I would remark that Mr. Gott has also prepared an article of isinglass from the air vessels of sturgeons captured in our southern rivers, but that it was not considered superior, by those who used it, to that made from the hake sounds. This may have depended upon the fact that the sturgeons were taken from warmer waters than those furnishing the Russian isinglass, and as, from my investigations, I am led to the conclusion, that the process of manufacture does not materially add to the quality of the product, but that the superior quality of the Russian isinglass pre-exists in the fish yielding it, if such

an expression is proper, I would again suggest the value of experimenting with the air vessels of sturgeon taken from some colder rivers of our country, with a view of equalling the product of Russia.

I was surprised to learn that the demand for New England isinglass was very limited, and unless some large increase in its consumption should occur, there appears to be no inducement for others to engage in its manufacture.

We find the preparation of this article, then, to be a very simple process; nothing more than certain membranous parts of fishes, divested of adhering mucus and dried in the air. The peculiar arrangement of the fibres of the article has doubtless attracted your attention, and this elongation is readily explained when the process of its manufacture is understood.

In speaking of the yield of isinglass from the sturgeon of Russia, the "Acipenser huso" of Linnæus, Mr. Jackson says, (in apparent opposition to the general impression, which is, that the sturgeon on account of its cartilaginous nature would yield great quantities of isinglass,) that no part of the fish except the inner coat of the sound, or air vessel, promised the least success; this being so full of "rugæ," adheres so firmly to the external membrane, which is useless, that the labor of separating supersedes the advantage.

The intestines, however, which in larger fish are several yards in length, being cleansed from their adhering mucus and dried, are found surprisingly strong and elastic, resembling cords made from the intestines of animals known as "cat gut," and promised to be of some practical utility.

The characteristics need scarcely be noticed here. The best is a whitish, dry, tough, semi-transparent substance, unchangeable in the air, of a leathery aspect and a mawkish taste, nearly insipid. When steeped in cold water it swells, softens and separates in membranous laminæ. At the boiling point it dissolves in water, forming when cooled a white jelly, which is semi-transparent, soluble in weak acids, but precipitated from its solution by alkalies. It is gelatin nearly pure, and if not brittle, like other glue, it is because of its elastic texture.

The uses of isinglass are various and important. The principal consumption is for "fining" liquors, beer, wine, &c.; and

it is noticed that during the conversion of isinglass into fining, the acidity of the menstruum seems greatly diminished, at least in taste; probably not on account of any alkaline property of the isinglass, but by its enveloping the acid particles.

As an article of food in the preparation of creams and jellies it is in great request. Four parts of it convert one hundred of water into a tremulous jelly.

It is used with gum as a dressing for silks and ribbons. The makers of artificial pearls employ it to fix the "Essence d'Orient" on the glass globules which form those pearls.

It is used, also, dissolved with gum ammoniac, as a cement, for joining broken china, &c. By spreading its solution upon silk the well known court plaster is made. Sheets of wire gauze, set in window or lamp frames and dipped several times in a solution of isinglass, answer instead of glass for some purposes. The outer surface should be varnished to protect it from damp air. This application was made by M. Rochen, of France, and these panes of gelatin are now much used for lamps instead of horn, in the maritime arsenals of France.

UPON IMPROVEMENTS ON METHODS OF RENDERING MEDICINAL PREPARATIONS, PLEASING TO THE EYE AND TO THE TASTE, AND AGREEABLE TO USE.

By FREDERICK STEARNS, of Detroit, Mich.

Next to efforts in the advancement of pharmaceutical skill and science, which secure increased efficiency to medical agents, there are none which meet the more ready appreciation of the physician, or insure the grateful remembrance of the suffering invalid, like those which tend to relieve the remedies employed of all repulsiveness in form, appearance, or taste.

While I am unable, from my own knowledge, to offer as much of value to the Association as could older and more experienced members, yet I submit the following *random* notes, and express the hope that some more skilful pharmaceutist will be appointed to report upon the same subject at our next meeting.

The administration of the officinal vinegars and dilute mineral acids, is rendered more agreeable by the addition of small portions of alcoholic solutions of any of the flavoring essential oils,

lemon, wintergreen, pimento, Ceylon cinnamon, etc., or of spices; sugar, when not contra-indicated, is also an allowable adjuvant.

The popularity of the elixir of vitriol over the dilute acid is owing to its agreeability to the taste; dilute phosphoric acid should have added to it a solution of the essential oil of the sweet orange.

Comp. tinct. cardamom, concent. infus. of rose, are excellent additions to medicated acids or vinegar, covering a portion of their taste, and imparting an agreeable color.

Prussic acid is best given in syrup of marshmallow. Lactic acid, which is now coming into use as a remedy for dyspepsia, indigestion, etc., is made into an agreeable drink with water, sugar and essence of lemon; it is also eligibly exhibited in the form of a pastill, in which form, also, the oxalic, tartaric, tannic and citric acids are most available.

Inert powders, or those which are comparatively so, it is said, can be made to produce a medicinal effect much quicker by long trituration with sugar of milk; in the case of ipecacuanha or of opium, this effect is rendered much greater; long trituration of calomel with the same substance, renders minute doses of it equal, in rapid and permanent effect, to quite large ones of the drug administered in the ordinary way.

Tasteless powders should be administered with aromatics, the milder spices, Ceylon cinnamon and the like; astringent powders can in this way be rendered less unpleasant.

Cane sugar, well dried and reduced to the finest possible state of division, by long trituration in a mortar, is an elegant vehicle in which to administer the alkaloids, and their salts, quinia, morphia, etc.; the *modus operandi* is as follows: instead of triturating the medicine and sugar together, mix the dose in its crystalline state, (without breaking it up,) by means of a spatula on a piece of paper, with a sufficient portion of the sugar previously powdered. In this way each crystal becomes enveloped with a dust of saccharine powder, and when placed upon the tongue and washed down with a draught of water, leaves nothing upon it but the sweet impression of the quickly dissolved sugar.

Mr. Maisch recommends the administration of the saline powders, ammonia salts, iron salts, potassa salts, etc., in effervescing

draughts, by which their bitterness or pungency is in a great measure overcome. Those pharmaceutists who furnish "mineral" or carbonic acid water, possess the means of administering many similar substances, in an agreeable manner; a "Seidlitz" is in this way administered without the necessity of giving an extra dose of tartrate of soda.

By an improvement in the processes of capsulation, the most volatile substances, ether, chloroform, turpentine, are now best administered in capsules of gluten; these are imported from France, and the "Perles d'Ether" of M. Clertan are certainly among the most beautiful and finished of the pharmaceutical productions of our accomplished co-workers, the French pharmaciens. Each capsule contains about five minims of ether, the empty capsule weighing but about two grains.

There is no reason why our list of officinal syrups should not be greatly extended, from the fact that sugar is an excellent preservative of the medicinal virtue of plants, proper regard being paid to the separation of the inert maters which excite fermentation; its agreeability as an excipient renders it grateful to the invalid; the cloying effect of syrups can be counteracted by the addition, at the time of using them, of some pleasant vegetable acid or acid syrup.

Many of the non-officinal fluid extracts, now so popular, could be converted into concentrated syrups by replacing part of the hydro-alcoholic menstruum with sugar.

I have in this way prepared, successfully, syrups of blackberry root, ergot, buchu, blood root, black cohosh, capsicum, cranesbill, dandelion, golden seal, hyoscyamus, horehound, lobelia, sculcap, yellow dock, etc.

Unless alcohol is desirable in fluid extracts, from a therapeutical point of view, it seems to me obvious that sugar could with advantage replace alcohol in nearly all the non-officinal fluid extracts, concentrated tinctures, etc., intended for internal use. A syrup of lime has been introduced as a substitute for lime water, it being a much more concentrated form of lime solution.

The phosphates are most eligibly exhibited in the form of syrups, particularly the phosphate of lime; a syrup composed of a solution in phosphoric and muriatic acids of the phosphates of soda, potassa, lime and iron with sugar, and pleasant flavoring,

has come into general use, I believe, in some of the Eastern cities, particularly Philadelphia; it is used in consumption and dyspepsia, and from its elegant appearance and pleasant taste seems to be an eligible preparation.

A tincture formed by macerating the bark of Prunus virginiana in rum, is an agreeable addition in the way of flavor to our officinal concentrated syrup of sarsaparilla. The U. S. syrup of Prunus virginiana I have found to be one of the most delightful of adjuvants to cough mixtures; it is also an elegant vehicle for the administration of the most powerful anodynes, etc., used in pulmonary complaints; prussic acid only serves to give increased flavor of the cherry to this syrup when given in it.

I have found a syrup of roasted coffee excellent in covering the taste of quinia, morphia, etc. An infusion of roasted coffee is valuable in covering the taste of Epsom salts, senna, and of many bitter infusions.

In many extemporaneous mixtures, a syrup prepared from the essential oil and peel of the sweet orange, is agreeable as an adjuvant.

If pharmaceutists would generally prepare their syrup of ginger and tolu after the method of Mr. Finley, as published in the 23d vol. of the American Journal of Pharmacy, I think they would not have cause to regret the change from the turbid, inelegant ones of the U. S. P., to the beautifully transparent and strong ones prepared by his method.

Strong fruit syrups, prepared by dissolving with as little heat as possible, 2 lbs. troy of refined sugar in the expressed juice of any fruit or berry, make delightful adjuvants to numberless extemporaneous prescriptions of the physician; they are agreeable additions to effervescent draughts, and are best for flavoring mineral water syrups.

Syrups of Iceland moss, Irish moss, marsh-mallow, horehound, acacia, liquorice, liverwort, etc., are favorites in certain localities as cough remedies; infusions of the same with gum and sugar are formed into pastes, similar to jujube, and meet with ready sale.

Confections, though considered in their ordinary forms as agreeable methods by which to administer medicines, are improved by introducing the proper dose of any one of them into figs or dates, and prunes freed from their stones.

Jellies of raspberry, current, quince, blackberry, etc., are nice for disguising the taste of powders when given to children. A little jam or jelly very nicely covers a bitter pill, for those who have a peculiar aversion to swallowing them.

Among the multitude of purposes for which pure glycerin is becoming available, its use as a solvent and preservative in pharmaceutical manipulations is most important; there seems to be scarcely a fraction as yet developed of the uses to which this wonderful substance can be applied in pharmacy.

Its solvent power, in most cases, equals that of alcohol or water, being sometimes even greater.

By mixing it with alcoholic or aqueous solutions, which are liable to change, they are thereby rendered permanent. Solutions of vegetable matter in it do not change or ferment.

It does not itself become rancid, and from its viscidity it can be used instead of cerate or oil as a vehicle for many substances used in embrocations.

The disagreeable sulphurets are soluble in it, and their solutions are among the most available methods of administering them; iodine and its salts, are dissolved by it.

Liq. iod. iron, syr. iod. iron and manganese, syr. iod. zinc, prepared with glycerin are recommended as elegant and eligible.

Escharotics of the deliquescent kinds are rendered particularly available in solution in glycerin, their action is much more controllable, and as the glycerin does not dry, their action is more persistent. The terchloride of antimony (cryst.) iodide and chloride of zinc, nitrate of mercury, chromic acid, etc., are among those suitable to use in glycerin. It forms solutions of the deliquescent salts, of the sulphate of potassa and soda, of the alkaline chlorides, and even of oxide of lead.

The salts of the vegetable alkaloids can be exhibited, dissolved in this substance, as embrocations or otherwise. It will dissolve bin-iodide of mercury in sufficient quantity, so that ½ teaspoonful will contain a sufficient dose. It is useful in emulsions, of copaiba and of oils; it aids in covering the taste of the nauseous ingredients.

It is suggested to use glycerin on account of its superior solvent power over fat or oil in the extraction of the active matters of the leaves of savin, stramonium, cicuta, dulcamara, elder, to-

bacco, etc., in place of the cerates as now prepared from these plants. It is superior to oil in imparting flexibility to collodion. Its preservative power is available for the preservation of vaccine lymph, the recent dry scales of which can be dissolved in it and kept unchanged for a length of time.

It is proposed that it be substituted for sugar in some of those medicinal syrups which are so liable to ferment. The properties attributed to it as a fattener would give additional value to it as a vehicle for ague remedies, as in syr. ipecac., syr. scillæ comp. Its bland and soothing properties when applied to the skin in an irritated or inflamed state, have caused it to be much used therefor. And I have seen numerous creams, balsams, lotions, etc., prepared from it by various pharmaceutists, many of which exhibit skill and taste.

The lozenge or pastill has become so common a form in which to exhibit medicinal substances, powders, extracts, juices, essential oils, etc., that I shall notice herein only the following: the efficiency of santonin as an anthelmintic has given rise to its extensive employment in the form of a bonbon or lozenge, delicately flavored, and rose colored; it forms in this shape by far the best and most eligible "worm lozenge" extant.

The preparation termed "Lactinates" find some favor among medical men; they are simply saturated tinctures of any medical plant, inspissated upon cane sugar, or sugar of milk. The applicability of this process depends upon the active principle of the plant not being decomposed by the necessary heat employed in preparing them. I have prepared lactinates of sanguinaria, ipecacuanha, hyoscyamus, digitalis, which possessed perfectly the characteristic ordors and properties of those medicines.

Homœopathic globules are made of flour and cane sugar, not of milk sugar, and why can we not learn from the infinitesimal dose-givers something? These pellets (the largest of those they use weighs $\frac{1}{4}$ of a grain) could be made of any size, and when medicated by means of concentrated alcoholic solutions of the more powerful alkaloids, would prove a very agreeable method of administering them.

The usual methods of rendering pills less repulsive by means of coating them with gelatin, gold or silver foil, dried mucilage of linseed, seems to be far superseded by the new and elegant

method introduced by French pharmaceutists, by which they are covered with gluten and sugar. *Odor* and taste are destroyed by converting them into bonbons. By this new method the odor of assafetida is entirely covered, and the most bitter dose rendered palatable. Extracts, all of the officinal pills and others, several decomposable salts, many of the alkaloids, cubebs, copaiba, astringents, etc. etc., are prepared in this form. Those I have seen are from the house of Garner, Lamoreaux & Co., Paris, and are striking evidences of the superior skill of the French pharmaciens.

The preparation of an unalterable pill of iodide of iron after the formula of Blanchard, pharmacien of Paris, has attracted considerable attention. I have prepared these pills for nearly two years, and they have become very popular among my medical friends. I now substitute an ethereal solution of mastic for one of tolu, with advantage in coating the pills as it dries quicker; the varnished pills are not apt to adhere, and the medicinal effect of the mastic aids that of the iron.

A pill or bonbon of oxidized balsam copaiva under the title of "Copahine Mege," has found much favor lately with physicians. They have the appearance and taste of sugar plums, and consist of copaiba (which has been heated in contact with nitric acid) covered with sugar, colored and flavored. They agree well with the stomach, and seem to produce the curative effects of the copaiba quicker than when it is given by the ordinary methods.

Lycopodium, which costs but a very little more than the best powdered liquorice root, is to my mind much more elegant to use for keeping pills from adhering to each other, than any other powder. Powdered althea root is also used for this purpose.

French Pharmaciens who exhibit the greatest skill and improvements in that department of pharmacy of which this paper treats, have brought the process of capsulation almost to perfection, as exampled by the manufactures of Raquin, Clertan and Mathey Caylus, in which copaiba alone, or its various compounds with cubebs, with astringents, etc., the turpentines, ether, essential oils, and numerous other substances, are enveloped in a thin, tasteless and inodorous covering of the gluten of rye flour, of a size favorable to easy deglutition, and yet containing a sufficient dose of each. The filling of them is so perfect

that they contain no air bubbles, and the empty capsules weigh only from 1½ to 2½ grains, whereas the gelatin capsule weighs nearer 10 grains.

The empty capsule, another French idea, although now made largely in this country, consists of two short, thin cylinders of gelatin, closed at one end, and sliding one over the other at their open ends. These are made of several sizes, and all that is required in order to use them is to fill the smaller cylinder with the medicine, whether solid or liquid, place the other over it, and having allowed it to soften in the saliva, it is as easily swallowed as a morsel of bread.

The tasteless French wafer is another method of taking powders; they are made white and tasteless, diameter about 3½ inches, and are used by moistening the edges of the wafer with saliva, placing the powder in the center; and folding the edges over the center thus enveloped, the medicine is taken without being tasted.

Numberless methods are proposed for covering the taste of cod liver oil, none of which are so simple and free from objections as that of chewing some bitter substance, as orange peel, previous to taking the dose. Emulsions of cod liver oil are elegantly prepared by means of carbonate of potassa, orange flower water and syrup. Many physicians prescribe cod liver oil in brandy, which tends to cover its taste and aids its medicinal action.

Castor oil is not improved in medicinal action by most of the methods used to disguise it, and the method of giving it floating between spirit and water is doubtless the best, which is as follows: in a proper cup place an ounce or two of mint water, milk or cold infusion of coffee, and having thoroughly wet the sides of the cup with it, pour the dose of oil carefully into the center of it, pour upon this a little brandy or any agreeable alcoholic tincture; the oil thus prepared can be swallowed without its touching the mouth at all, being completely enveloped by its aqueous and alcoholic vehicle. The essential oil of spearmint possesses the power of covering the taste of copaiba, in emulsions of that substance, in a remarkable degree.

Since fluid extracts were made officinal by the last revision of the United States Pharmacopœia, the number of plants which

have been found eligible when used in that form has greatly increased. Messrs. Tilden & Co. now prepare over one hundred varieties of fluid extracts; they have the advantage of being concentrated fluid representations of plants with but little alcohol; and in very many of those now preserved by means of alcohol, sugar might with advantage be substituted for that purpose.

Among the non-officinal fluid extracts, those of arnica, blackberry, cranesbill, ginger, buchu, dandelion, dandelion and senna, hyoscyamus, and sarsaparilla compound, I consider especially eligible, and there is no doubt but that there are many other plants which experience will prove to be most valuable in the form of fluid extract.

I have had occasion to prepare, during the past year, several *saturated* tinctures, as some physicians think them less variable, and require much smaller doses. In preparing them I have used a considerable excess of the dried material over and above the amount calculated that the menstruum can exhaust. This method is wasteful, and is only applicable to local prescribing, and when the effects of such preparation can be closely watched.

I have prepared as above, saturated tinctures of bloodroot, belladonna, henbane, lobelia, digitalis, conium, etc.

The compound tincture of cardamom is one of the most elegant of adjuvants to mixtures of tinctures, etc., known.

Most pharmaceutists color their essences or alcoholic solutions of the essential oils of peppermint, spearmint, pennyroyal, and the like, by means of curcuma. Now by placing a small portion of the dried plant, from which the essential oil is obtained, into the solution of oil previous to filtration, a color is obtained which is much more natural. A few red rose leaves impart to essence of winter-green a more delicate color than saunders or cochineal.

The infusion of rose leaves forms a judicious addition to many extemporaneous mixtures, owing to its power of disguising taste, and to its beautiful color.

The modern idea of preparing extemporaneously, and taking infusion of quassia, by drinking water from goblets made of quassia wood, has already become obsolete.

In the preparation of cinnamon water, the essential oil of the

true or Ceylon cinnamon should always be used, as it produces a medicated water of delightful flavor and agreeable odor.

Of late years the ligneous portion of slippery elm bark, which is separated when this bark is ground from the mucilaginous portion by bolting, has been used much for cataplasms in place of linseed meal, bread, etc.; it is cleanly and sweet. There is an article call spongio piline, imported from England, made of a mixture of wool and sponge attached to a thin, but strong sheet of rubber. It is used by simply wetting a piece, cut to the size wanted, with water (warm or cold); the impervious rubber keeps the moisture from evaporating. Infusion of tobacco, belladonna, or any anodyne or narcotic, can by means of this substance be eligibly applied externally.

Ointments when prepared extemporaneously upon prescriptions, should have used in them as a vehicle for the action of remedies, only the sweetest of lard or suet, or else use perfumes to cover any disagreeable odor it may possess. A cerate of wax and oil, the unguentum aqua rosæ and glycerin cerate, are eligible vehicles for powerful substances exhibited in ointment. These should be prepared of various degrees of hardness, so as to correspond with the prepared lard, spermaceti and simple cerate of the United States Pharmacopœia.

Cantharidin tissue, blistering taffeta, cantharidal collodion, solution of canthardin in oil, solution of cantharidin and pure gutta percha in chloroform—all these form new and popular substitutes for the ordinary blistering cerate.

I have been in the habit of preparing for some medical friends an embrocation which is used for piles in place of the nutgall ointment of the Pharmacopœia, prepared by dissolving *one half* drachm of hyd. alc. extract of tobacco and *one half drachm* of tannin in *two fluid ounces* of glycerin.

Hat Case—a sort of oil cloth—forms a useful article in spreading plasters; it is very flexible, accommodating itself to any inequalities of surface, and does not allow the material spread upon it to penetrate its substance so as to show upon the reverse side.

It seems singular that Vallet's mass of proto-carb. iron should not be more generally employed in place of many other more expensive and less eligible forms in which iron is exhibited; its

pleasant taste, ready acceptability to the stomach, and efficiency even in small doses, its easy preparation, all render it valuable to the physician and profitable to the pharmaceutist, and yet there are but comparatively few pharmaceutists who prepare it at all.

Lactate of iron is, perhaps, best exhibited in the lozenge form. I have noticed an elegant pastill of lactate of iron of French make, which are sold by importers.

The oil or butter of the cocoa nut is an elegant vehicle for the preparation of ointments, on account of its snow white color and agreable odor. It is less liable to become rancid.

The butter of cacao, or the chocolate nut, is used sometimes for enveloping pills; also for making suppositories.

Although there seems to be much difference of opinion among English pharmaceutists concerning the value of *concentrated* infusions, as compared with those prepared by the officinal methods, there is one thing certain, that from the ease with which the concentrated ones are kept, in spite of their not becoming officinal, they will be thus prepared and kept by most pharmaceutists.

Of all saline aperients and cathartics the solution of citrate of magnesia seems to have reached the popularity due to it as the most agreeable ever invented. Its use is yet somewhat confined to the larger towns and cities. Though from the improvements made in its preparation, so that it is permanent, it can be kept any length of time and easily transported to any part of the country.

A dry and soluble citrate of magnesia prepared after the method of Robiquet and mixed with flavored sugar, bi-carb. soda and citric acid, forms a portable and exceedingly pleasant aperient salt for travellers to carry.

The French put the soluble citrate of magnesia up into pastills, each of which contains one gramme of the salt.

The fluid magnesia of Sir James Murray is easily prepared by any pharmaceutist possessed of an apparatus for making mineral water. This bi-carbonate is an eligible ant-acid, much used by the English; it is aperient in large doses, its cathartic effect being enhanced by drinking it with a portion of syrup of citric acid, by which a portion of the bi-carbonate is converted into

citrate of magnesia with the escape of abundance of carbonic acid gas; it is drank while effervescing. The fluid magnesia is recommended as a vehicle for bitter infusions, covering their taste, etc. It forms an elegant ant-acid and stomachic cordial for infants—used to prevent their food from turning sour upon their stomachs, and as a gentle carminative in place of solutions of opium—when prepared by adding to it a small proportion of the essential oil of anise, caraway and fennel dissolved in alcohol, water and sugar.

The French administer sulphur internally in the form of a pastill, each of which contains 10 grains of sublimed sulphur.

As phosphorus readily dissolves in glycerin, this solvent is recommended as a fit substance in which to exhibit it.

The principle objection to the valerianates—their odor—may be overcome by using with them almost any highly flavored essential oil. Oil of gaultheria succeeds well among others.

Numerous other ideas suggest themselves to me illustrative of the subject matter of this article, but the amount written warns me to close; and, in conclusion, I would remark, that every pharmaceutist possesses within himself the ability to add a mite or more to the general knowledge of our profession, and that it is his duty to impart that knowledge for the benefit of the whole, and while it seems evident that but a small portion of the inherent skill and taste of the *American* is exhibited in perfecting the agreeability of our pharmaceutical preparations, yet, as progress in this department of our art is daily being made, we may reasonably hope, at no distant day, to successfully rival the productions of other arts and professions in beauty and attractiveness.

From the Proceedings of the American Pharmaceutical Association—1857.

ON THE MANUFACTURE OF IODINE FROM THE ASHES OF SEA-WEEDS.

By Thomas B. Porteus, of Boston.

As this paper is submitted with the essentially practical purpose of assisting those who may at some future time attempt the manufacture of Iodine in the United States, and of putting them in full possession of all the details necessary to a successful result, the author deems it proper to take a passing glance at

the present state of the trade in Europe, so as to place before the reader a correct idea of the extent and sources of the production of this important article of the Pharmacopœia.

The principal seat of the manufacture is the city of Glasgow, Scotland, in which city and neighborhood there were engaged in the manufacture, in 1854, nine separate establishments, consuming on the average from 800 to 2000 tons of kelp annually. Beside these, there were two in Ireland, located at the head of Loch Swilly, as being conveniently situated in the centre of the kelp district. There are also two establishments in France, both carried on by Mons. Corneille; one at Brest, the other at Cherburg; so that in Europe there are about thirteen houses in all, exclusively engaged in supplying the world with the article of Iodine.

It is scarcely necessary to say that the only known source of iodine, commercially speaking, is the marine plants which grow spontaneously along all the northern coasts of Europe. Of the modes adopted in converting these into kelp, as the incinerated plants are called, we will have occasion to speak more fully in another part. Our present object is to give a correct estimate of the amount of kelp consumed annually, and the quantity of resulting products.

The quantity of kelp imported into Glasgow is generally about 6000 tons annually; it has, however, in some years amounted to between ten and twelve thousand; the sum first mentioned being a fair average. The quantities used in the manufacture in Scotland and Ireland may be safely set down as follows:

Scotland,	Glasgow, . .	6000 tons.
	Borrowstoness, .	2000 "
Ireland,	. . . . .	1000 "
	Total	9000 "

Of this amount, 7000 tons are produced in Ireland, and the rest in Scotland; the price on the average, at the various places of collection, is $20 per ton; the cost to the manufacturer of iodine, including freight and commission to the local buyers, is $25; these are the average; some kelps bringing as high as $40, this of course depending on quality. We have, then, say 9000 tons of kelp at $25, amounting to $225,000 yearly, expended

in the purchase of this product of the ocean, which, but for the iodine manufacture, would assuredly go to waste, as in addition to what is made into kelp, they also get what they require for manure. Of this sum of $225,000, $175,000 is distributed along a coast in Ireland not exceeding two hundred miles in extent; and mostly indeed within the limits of one county, viz.: Donegal. Are these facts not worthy the attention of the seaboard inhabitants of Maine and Nova Scotia? Undoubtedly the time must come when the manufacture of kelp for chemical purposes will be one of the branches of trade on the American Continent; when it may be we cannot presume to say, but the initiative must be taken by the coast people, and we have no fear, if they produce a good article, but that the enterprise of Boston merchants would soon find means of turning it to profitable account.

The amount of iodine procurable from kelp has been variously stated, but is generally set down at about 10 lbs. to the ton. This amount would be too high an average for the article imported into Glasgow, as the adulteration of it, especially on the Irish coast, is carried on to an enormous extent, as much as thirty per cent. of stones and gravel being generally introduced during the process of burning; on the other hand, the writer of this has known kelp from some particular districts to yield 15 lbs. per ton for a series of years, and some as high as 20 lbs. to the ton. If we take them at an average of 9 lbs. of iodine per ton, we will be pretty near the real amount.

But iodine is not the only valuable product of the manufacture; if it were so, it would never pay.

The "salts of potash" form a very important item in the manufacturer's calculation of profits; and in the properly separating these from their mixed solution in the kelp ley, consists the whole nicety of the process. The proper mode of doing this has been completely omitted in all works treating on this manufacture which we have seen, so that any person attempting the manufacture of iodine, trusting to the loose and careless phraseology of the books, would be groping in the dark; the result being inevitable failure. To obviate this, and place everything plainly before him, as briefly and with as few technicalities as possible, is the object of this paper.

To resume our estimate of products, the following tabular view will render it more clearly:

9000 ton kelp yielding,	9 lbs. iodine per ton,	81,000	pounds.
	500 lbs. chl. of pot. per ton,	4,500,000	"
	150 lbs. sulph. of potash per ton,	1,250,000	"
	300 lbs. mixed carbonate, muriate and sulphate of soda, called by the trade kelp salt,	2,700,000	"

This shows upwards of 2,600 tons of salts of potash introduced into the British market annually, incident to the manufacture of iodine. These are almost wholly consumed by the alum makers, and sell generally at about $50 per ton. From the cheapness of soda in Britain, the mixed carbonate and sulphate of that salt are difficult of sale, seldom bringing more than $6 per ton; but in the United States they might be wholly used up to advantage in the soap manufacture, all the soda salts used for that purpose being imported.

The insoluble residuum which remains after the exhaustion of the soluble contents of the kelp, and which amounts to about one half the original weight, when mixed with sand, is the universal flux used by the glass bottle makers in Scotland. The price generally paid is $1 per ton; the trade name for this residuum, which is a mixed silicate of soda and potash with various impurities, is kelp waste.

This then exhausts the number and quantities of the products incident to the manufacture of iodine from the incinerated ashes of sea weed, so that if we calculate the two French establishments to be equal to two medium Scotch in their consumption and product, the following table will be a very near approximation to the annual products and money value of the trade:

Products of Iodine.

Scotland and Ireland,	81,000 lbs.			
France, . . .	19,000 lbs.	100,000 lbs.	$3.00	$300,000

Chloride and Sulphate of Potash.

Scotland and Ireland,	2,600 tons.			
France, . . .	500 "	3,100 tons.	$50 per ton.	155,000

Soda Salts.

Scotland and Ireland,	1,350 tons.			
France, . . .	300 "	1,650 tons.	$6.00 per ton.	9,900

Kelp Waste.

Scotland and Ireland;	4,000 tons.			
France, . . .	1,000 "	5000 tons.	$1.00 per ton.	5,000
				$469,900

Four hundred sixty nine thousand nine hundred dollars. And this large sum, the result of a trade in an article discovered only in 1812, and not yet in anything like general use as a remedial agent more than a single generation; one of the many inestimable boons presented to suffering humanity in the progress of chemical science.

We now proceed to consider the modes adopted for the manufacture of iodine from kelp; and first in order as being the most important in view of the object of this paper, is

The preparation of the Raw Material or Kelp.

All the *deep sea plants* are more or less rich in iodine in contradistinction to those which grow above low-water mark; as a general rule those sea plants which are fully exposed to the action of the sun and air by recession of the tide, are unfit for the preparation of kelp for iodine making; they are characterized by being possessed, in a greater degree, of salts of soda than those which draw their sustenance entirely from the ocean, these latter being extremely rich in potash salts and iodine as compared with the former, but varying in this respect considerably from each other. To those, then, who may essay the production of the most profitable kelp for the iodine manufacture, we would say, in a word, reject all those plants which may be procured by cutting them from the rocks at low water, as not worth the trouble and expense of preparing, and trust to the mixed kinds of deep sea plants which are abundantly thrown up on the beaches, after the storms have torn them from the submerged rocks. The best kind of sea plant for the purpose is the tangle, or Palmata digitata, or lieach, as the Irish call it. This is a plant growing from one long thick stalk, with branches about three inches in breadth, with a smooth and leather-like appearance, very greasy and slimy to the touch; when cast ashore in heaps it has a greenish yellow tinge. Wherever this is plentiful, a rich kelp is easily prepared.

Of course it is not to be supposed that anything like picking the kinds of kelp to be burned is practicable; the only object of these remarks is to indicate the general quality of the weed, so that beaches where these are not abundantly thrown up may be avoided, and districts where they are plentiful searched for and preferred. The quantity of weed required to make one ton of kelp may be safely set down at from twenty-five to thirty tons in its wet state, so that all kinds which may be cast ashore are of course indiscriminately mixed up in collecting; the quality of the article being determined by the general abundance of the said long tailed weeds.

Upon the weed being cast ashore by the surf, it is to be carted on to the most convenient spread field, which may be either the stony beach or rocks, or green sward. There it is to be spread out by means of pitch-forks in a moderately thin layer, and if the weather is warm and drying, it may be turned once or twice somewhat as hay is prepared, during drying, which will take four to five days, according to the weather; it shrinks considerably. When dry enough for burning, it is crisp and easily crushed in the hand. It is now to be collected into one or two large heaps in a convenient place for burning, which is done in a rudely made kiln, formed by the stones on the beach; the kiln should be about eight feet long by two and a half feet wide, and two feet deep. A flat rock is generally chosen for the bottom, or a shallow hole, dry, lined with stones on the bottom, and the sides made with loose stones, built like a dry well, and turf laid outside with air holes to regulate the draft. A fire of wood is now kindled in the kiln and the dried weed gradually put on until the fire is fairly set agoing; the weed is now assiduously added all over the kiln, wherever the flame burns out, and this is continued until the whole weed is burned, or as long as the workman thinks necessary to continue. When about to stop, the fire is allowed to slack down, and the red mass of ashes are to be diligently stirred by two men, one at each end of the kiln, with an iron rake, until the mass becomes pasty, when the process is finished. If there is room, more weed may be burned in the same kiln by kindling a fire on top of the kelp and proceeding as before. The kelp, when cold, is to be taken up and housed for market.

The separation of the soluble contents of the Kelp.

The kelp is to be broken up by hammers into pieces of the size of egg coal; these are introduced into the steeps, which are square cast iron tanks about six feet long, four wide and four deep, with a faucet in the side at the bottom, to run off the ley; a rude filter of straw and cinders is placed over the aperture on the inside to prevent the fine dust from coming through with the ley. The steeps having been filled with the broken kelp, cold water is run on a few of them, the number depending on the size of the establishment, the rest are not watered; after standing eight or ten hours the water is strongly enough charged, the faucets are opened and the clear ley run into a cistern below; from this cistern it is pumped into the large cast iron evaporating vessels. Of its concentration there we will have occasion to speak hereafter. In the mean time the vessels which have been emptied are again filled, but this time hot water is used to expedite the solution; this after standing a night is to be run off and pumped into those steeps which had been left unwatered, there to take up from the fresh kelp a sufficiency of salts to make the ley strong enough to be pumped into the evaporating pans, thus saving fuel. In this way in a well regulated work the liquor of the steeps No. 1 are run on to No. 2, and these as they become spent are run on to No. 3, thus keeping up the supply of strong ley for the boilers; this is a most important point in the economy of an iodine work. No. 1 being exhausted, is again to be filled and covered with weak ley from the others, and so on in rotation.

Of the Boiling.

And first of the Hydrometers. The Hydrometers used are those known as Twaddle's, and are three in number. No. 1 is graduated on the scale of water, as 0° at the top in degrees, and numbered at every second degree, as 2, 4, 6, 8 and so on to 24°. The use of No. 1 is to show the strength of the ley in the steeps when getting weak, and when the glass sinks to 2° the steep may be emptied. These are useful and simple instruments, and very easily understood by the workman. The ley from the steeps should, if possible, never be put into the boilers at less than 36° or 40°, if attainable, as this will obviate the necessity

of evaporating a large quantity of useless water, and consequently save expense.

In regard to the separation of the mixed salts. They are taken out in the order of their insolubility, sulphate of potash being the first parted with by the ley, as it contracts in the evaporation. There are two methods of obtaining this salt; that which is adopted depending upon whether the operator wishes to crystallize out the salt, or merely to deposit it during the boiling; if the crystals are wanted, the ley from the steeps should not exceed 30° on the hydrometer, and should be boiled until it shows a pellicle on the surface, when a little should be taken out and blown upon by breath; this will occur when it marks on the hydrometer 42° to 44°. The fire should now be drawn out, and the hot ley ladled into the crystallizing pans, which are best made of cast iron; when cold, a layer of the salt will be found adhering to the sides of the vessel; this should be allowed to remain after the liquor is removed, and five or six different panfuls allowed to crystallize, one after the other, when the salt may be removed to make room for another quantity. This plan is, however, now seldom adopted, as it entails a loss of time in the cooling, and takes up too many vessels.

The other plan is this: the ley at 36° or 40° is evaporated up to 62° or 64° at one boiling. When it reaches 44° it then begins to part with the sulphate of potash, which falls down to the bottom of the pan, in small scaly crystals, of a grey color; as these are apt to adhere to the sides of the pan, a scraper of iron, tipped with steel, is used to keep the sides free, and prevent caking, as this would endanger the safety of the vessel. The scraper is an iron rod about 6 feet in length, with the lower end broadened out to about 3 inches in width, and kept sharp. The salt, as it is scraped down and deposited, is scooped out with a long wooden-handled iron shovel, perforated with small holes to allow the water to drain off; a half cask with a few holes for drainage is placed with its edge over the side of the pan to receive the wet salt; this allows the liquor to drain back into the boiler. After the boiling has continued until a strong pellicle is formed on the ley, which will occur at 62° or 64°, the fire should be withdrawn, and after standing 20 minutes or so, the contents ladled into the coolers. A further deposit of sulphate will be

found in the boilers; this is, of course, added to the rest in the cask and allowed to drain.

The liquor being now deprived of its sulphate of potash, will, upon cooling, deposit a plentiful crop of white crystals of chloride of potassium all round the sides and bottom. This liquor, when cold, must now be ladled into the boilers again for further evaporation; the bottom of the cooler, from which it has been taken, cleaned out and put into tubs with small holes in the bottom to drain the salt, the liquor being preserved and added to that in the boiler; the crystals on the sides will drain down to the bottom in a few hours, and then may be removed, mixed with the dried bottoms and sent to market.

The liquor from which these crystals were obtained, and which was returned again to the boilers, is now to be evaporated as before; this time the boiling is to continue until the hydrometer marks 66° or 68°; and during this boiling the soda salts begin to be deposited in the same manner as the sulphate was in the first. The pan must be diligently scraped and the salt put into a tub, and set to drain over the edge of the pan as before, keeping this deposit and the sulphate separate. When a pellicle is formed as before, which will be at 66° or 68°, the same mode of procedure is to be adopted as in the first case, and a further deposit of crystals obtained. When the liquor is cold, it is again to be boiled, and the same process followed exactly as in the former cases. The deposit at this third boil being still soda salts, may be mixed with the salt from the second boil; the liquor should be brought to mark 72°, and again set aside to cool. Some manufacturers now stop the further concentration, but the majority prefer boiling a fourth time, proceeding exactly as directed for the three previous boils; all the deposited salt which falls during the last three boils, being soda salts, are stirred together. The first, or sulphate of potash, stored by itself, and the contents of the crystallizing vessels, or chloride of potassium, also kept separate. The liquor at the last boil should mark 74°.

The pans in which the evaporation is conducted are generally made about 7½ feet across the mouth, with a depth of 3½ feet. They should be set so that the flame may not strike the bottom of the pan, but play round the sides; this is done by setting the bottom solid on clay, and building a small arch in front, so the

flame strikes the front of the pan, and dividing there, circle round the sides and escape into the chimney on the back. This arrangement allows the salts deposited to collect at the bottom, whence they are easily ladled out.

The Extraction of the Iodine.

The quantity of liquid by these series of boilings has now been reduced to one-sixteenth of its original bulk. Or to make it still clearer, allow that 16 pansful had been boiled at first, and now off the steeps; these by evaporation, and parting with a certain quantity of their soluble contents, are reduced to eight pansful, which again make four, and these two, until at the fourth boil one pan from the sixteen remains; this, as may be supposed, is highly concentrated, and holds in solution the iodine, in the form of an iodide or iodate of soda and potassa. After this liquor has become completely cold, it is ladled into an iron pan, (if lined with lead so much the better,) and is there subjected to the action of sulphuric acid; unconcentrated acid is best for this purpose; and to a quantity of liquor remaining after the process described as being the product of pans of the size indicated, from 8 to 10 carboys of acid will be required fully to saturate the free salts contained. The acid should be added gradually, as by setting two carboys over the neutralizing pan, and allowing it to enter the liquid by means of small leaden syphons, very copious evolutions of gas are liberated during this process, and as the mixture must be diligently stirred, it is better to have the operation conducted near the chimney, into which a hole has been made, closed when not in use by a damper; the draft carries off the noxious vapors, and is a great convenience to the workman. The acid should be added in till the liquor is very sour, and a few drops of acid added to a small quantity evolves fumes of iodine readily. The liquid will now have a creamy yellow appearance, and should be kept undisturbed (except skimming the sulphur from the top,) until next morning, when it is to be transferred to the stile for sublimation. The stile should hold the above mentioned quantity of liquid twice; its size should be about 4 feet in diameter, and $2\frac{1}{2}$ feet deep; the bottom cast to two inches thick, and set as a common boiler in brickwork; a leaden dome should fit into a flange round the rim, and

be luted with fine clay; in the centre of this dome a circular hole should be left about 18 inches diameter, with a flange round its edge, into which a small dome should fit, and be luted; this, as well as the larger, should have handles soldered on, so that they could be easily lifted off when required; in the smaller dome two flanged holes are made to receive the bent ends of the leaden arms, which are to convey the fumes of the iodine into the receivers or condensers. These arms are made of moderately thin lead soldered in the form of a tube; they should be about 3½ inches in diameter, and their bent elbow luted into the flanged holes in the small dome. They should also at the top of the elbow have a small leaden plug like the stopper of a vial, which can be taken out occasionally by the operator to judge of the process of sublimation. The arms should be long enough to clear the edge of the stile about six or eight inches, their ends being there introduced into the receivers. These latter are large earthenware carboys laid on their sides, and having a neck and hole in the bottom. The end of the leaden arm is connected with the first receiver by having its end thrust about two inches clear into the hole in the bottom; the neck of this receiver is fitted into the bottom of the next, and so on through the series, which should consist of eight or ten placed in two rows, side by side, on a wooden frame; the two arms from the stile leading the iodine as it sublimes into them, where it condenses. All the places where the joinings are should be carefully luted with fire clay.

Having thus described the stile and its accessories, let us see how it is to be wrought.

The stile should be filled with the neutralized ley up to within six inches of the brim; the larger dome not being moved for this purpose, the hole for the smaller dome being large enough for filling. A fire is now kindled in the small furnace of the boiler, and the liquid heated up until the leaden dome feels pretty hot. Never having used a thermometer to determine the heat, I cannot indicate the temperature nearer; it must not, however, at this point reach a boiling heat. The smaller dome is now to be luted on, the arms are luted into their respective places in this dome, and into the ends of the receiver, and the oxide of manganese is now to be added. The quantity for a stileful, the size indicated, is from 60 to 80 lbs. finely ground; it is introduced

through a hole left in the top of the larger dome, near the side; this hole is about 2½ inches in diameter, and a wide funnel, such as grocers use, is inserted so as to facilitate the introduction of the manganese. When this is fairly introduced, it is rapidly stirred for a minute with a stick through the hole. The hole is then stopped with a wooden plug cased with thin lead, and the heat is gently kept up, until, on withdrawing the small stopper in the arms, the fumes of iodine are scarcely observable; this, according to the quantity of ley, will be from three to six hours. The process completed, the fire is withdrawn, the arms removed from the end receiver, and the hole plugged with old cloth of any kind to prevent escape. The receivers are allowed to stand so until cool, when they are disconnected, and tilted gently to remove the condensed steam; they may then be replaced and used three or four times before the iodine is removed. The liquor in the stile is then run off with a syphon, a stream of cold water being conveyed into it at the same time. As the acid liquor attacks the iron very readily, it is good economy not to neglect the emptying of the stile, but have it done immediately after the process is finished.

From the Proceedings of the American Pharmaceutical Association—1857.

REMARKS ON ERGOT.

By William Procter, Jr.

At the last meeting of the Association, (1856,) among the questions proposed for solution, during the interval till the next meeting, was the following, which was accepted by the writer:

"Does *Secalin*, the volatile alkaloid of Ergot, possess the utero-stimulant power of the drug itself? Does Propylamin, as obtainable from 'herring pickle,' and from 'Narcotin,' possess the same power as Secalin? In view of the result, what is the best formula for preparing a permanent fluid preparation of Ergot?"

It will be seen by the sequel, that only a part of this query has been answered, but it has been deemed best to report the following:

Ten thousand grains of powdered ergot was exhausted, nearly, with commercial ether in a percolator, and the residue spread on paper until the adhering ether had passed off. The

ethereal tincture, exposed to spontaneous evaporation, yielded an oily residue of 2840 grains, which included a small portion of matter soluble in water and diluted alcohol, taken up by the ether, and deposited with the oil.

The dried residue of the ergot was mixed with water (containing six per cent. of alcohol, to retard fermentation,) macerated until each particle was saturated, introduced into a percolator and the same menstruum added gradually, until the passing liquid possessed but little taste or color. The liquid thus obtained was carefully evaporated to a syrupy consistence, then thrown into it five times its bulk of rectified alcohol, and the liquid filtered from the gummy albuminous precipitate. The alcoholic filtrate was then evaporated to six fluid ounces, poured into a tall glass alembic, and four ounces of liquid hydrate of lime (containing half an ounce of quick lime) added and mixed. A receiver containing a fluid ounce of water and ten minims of sulphuric acid, was accurately adapted and well refrigerated. The acidulated water was intended to fix the first vapors of secalin, which otherwise cause considerable tension in the atmosphere of the apparatus. The elimination of secalin was so rapid at first as to cause the contents of the alembic to boil over, and the receiver had to be changed, with some considerable loss from the escape of vapors, the room being strongly charged with the ergot odor of the secalin. On again distilling, with the receiver arranged as before, the process was pushed until the distillate amounted to six fluid ounces. This liquid had an alkaline reaction, all the acid having become saturated by the alkali: sufficient acid was then added to give an acid reaction, and one third of it set aside for therapeutical experiments. If a drop of this liquid is placed in a watch glass, and a drop of liquor potassa added, the odor of ergot is instantly produced, and if then a glass rod, moistened with hydrochloric acid, is held over it, abundant visible vapors of muriate of secalin will be observed. The residue of the acidulated distillate was placed in an evaporating dish and suffered to evaporate spontaneously until reduced to one eighth, and then finished at a temperature of 130° Fahr., (owing to a slight empyreuma having occurred near the close of the distillation, the evaporated distillate was colored brownish;) a crys-

talline mass of hydrochlorate of secalin remained, which had little if any odor of secalin.

The fixed oil was now examined. On washing it with a little acidulated water, the latter acquired color, and when mixed with potassa, the vapor of secalin was manifested by its odor, and when brought near hydrochloric acid. This shows that commercial ether removes a portion of the secalin, and points to the necessity of washing the oil with acidulated water when it is rejected from a preparation of ergot.

Two vials of the distillate, of an ounce each, were placed in the hands of two medical gentlemen, for trial, in the hope that they would be able to report in time for the meeting of the Association, but as yet no return has been made.

It was not deemed necessary to isolate propylamin (secalin) from herring pickle, until the secalin of Winckler was satisfactorily shewn to be the active principle of ergot, as the interest centering in the determination of that point was presumed to be common to both.

It remained, therefore, to prepare a formula for a fluid preparation of ergot which should fully represent its activity.

1. Mr. T. R. Baker and others have shown that oil of ergot, freed from adhering substances, is bland, and has the composition of castor oil, or at least that the fatty acid (ergotoleic acid) of oil of ergot has a similar constitution with ricinoleic acid.

2. The experiments above show that commercial ether does remove some secalin with the oil. This probably arises from the alcohol present in small quantities, and points to the propriety of using purer non-alcoholic ether.

3. Powdered ergot moistened with water exhibits an acid reaction with blue litmus, and Winckler asserts that secalin exists in ergot, combined with ergotic acid (of Wiggers.) On inserting a glass rod moistened with HCl into the atmosphere of a bottle containing powdered ergot, but little if any visible vapors are observed, yet there is a distinct well marked ergot odor.

4. Does the normal odor of ergot arise from a gradual disengagement of secalin, or is it independent of that principle? To answer this question, it is necessary to compare the odor of ergot and secalin. They are different—as different as valerian and valerianic acid—yet the odor of valerian is largely influenced by

the acid it contains. Further; the odor of recently dried conium is not that of conia, but of a peculiar volatile oil. But if conium is allowed to get old, the coniate of conia is gradually decomposed, the mouse odor of the alkaloid is given off, and the original conium odor greatly modified. Now the question arises, does there occur a gradual atmospheric decomposition of the natural salt in ergot, as of that in conium? Water distilled from ergot does not possess its peculiar odor; on the contrary, the decoction in the still retains the ergot smell, which is enhanced and modified by the addition of liquor potassæ. On the contrary, a few drops of diluted sulphuric or muriatic acid entirely destroys the ergot odor of the decoction. May we not plausibly infer from this that the natural odor of the ergot is due to secalin loosely held by the organic acid of ergot, modified by associated matters? and as a consequence of this inference, does it not follow that an acidulated menstruum should be used in treating ergot, when its solution is to be evaporated? It may be asked, will the replacement of ergotic acid by a stronger acid affect the therapeutic or physiological action of ergot? It is thought not, because in all cases of alkaloids the salts are more active, because more soluble; yet this point is easily settled by trial, which want of time alone prevents. In view of these several points, the following formula for fluid extract of ergot is offered:

Fluid Extract of Ergot.

Take of Ergot, in powder, eight ounces (Troy.)

Ether,
Alcohol,
Water,
Diluted Acetic Acid, } of each a sufficient quantity.

Pack the ergot moderately in a suitable percolator, and pour on ether slowly, until a pint and a half of tincture has passed, and having spread the residue of the ergot on paper, suffer the adhering ether to pass off by evaporation. Meanwhile agitate well the ethereal tincture with two fluid ounces of diluted acetic acid, and in a proper distillatory arrangement recover the ether by aid of a water bath heat. Add two fluid ounces of water to the oily residue, agitate, and when subsided decant the oil from the watery fluid, and set them separately aside.

Prepare a menstruum of two pints of water, half a pint of alcohol, and two fluid ounces of diluted acetic acid, and having moistened the ergot residue with a pint of it, allow it to macerate two hours, introduce it into a percolator and displace with the remainder of the menstruum, slowly, till exhausted. Mix this liquid with the acetic washings of the oil, and evaporate by means of a gentle heat, (say 150° F.) till reduced to four fluid ounces. To this when cold, add four fluid ounces of alcohol, separate the gummy precipitate by filtering, and wash the filter with sufficient diluted alcohol to make the fluid extract of ergot measure eight fluid ounces.

Fluid extract of ergot, thus prepared, is a laudanum colored fluid, thin consistence, a mild ergot odor and taste. A fluid drachm represents sixty grains of ergot, and the dose is from 20 minims to half a tea-poonful, or by adding a tea-spoonful to a table-spoonful of sweetened water, a tea-spoonful of the mixture will equal ten or twelve grains of ergot.

Some may question the necessity of complicating the process by the preliminary ethereal treatment. The reason urged for its propriety is that ergot contains nearly, if not quite, a third of its weight in fixed oil, which shields the particles from the action of the watery menstruum, and obstructs its thorough action. If omitted, more care will be required in the exhaustion of the ergot, with the menstruum directed.

From the Proceedings of the American Pharmaceutical Association—1857.

ON THE DETECTION OF A NEW FALSIFICATION OF OIL OF BITTER ALMONDS.

By John M. Maisch.

Sometimes we meet in our drug market with an oily liquid termed artificial oil of bitter almonds, the proper name of which is nitrobenzole, or nitrobenzide; it is benzole $= C_{12} H_6$, one equiv. of H of which is replaced by NO_4; making its formula $C_{12} H_5 (NO_4)$. Its physical appearance has a remarkable resemblance to the genuine oil of bitter almonds, though its spec. grav. is about ·16 greater, and its taste is sweetish instead of hot aromatic. The close analogy of its odor to that of the real oil, and its ready solubility in alcohol and ether, with both of which it may be mixed in any proportion, and its low price, being be-

tween $\frac{1}{4}$ and $\frac{1}{6}$ of that of the true oil, render it valuable as a substitute for the same in the manufacture of perfumery, and probably for other purposes; and in view of these facts, it is to be wondered at that the oil of bitter almonds has not been largely adulterated with this body, which will not diminish its odor, instead of alcohol, with which it is very often found sophisticated. It is, however, possible that such a practice has been going on to some extent without any of the consumers having become aware of it; at least, I do not recollect of having met with such a statement in any of the pharmaceutical journals. I happened perchance to witness such a falsification, seeing a wholesale druggist mix the two articles by equal weight, and it has been my endeavor to find out an easy and practicable way for the ready detection of such an admixture. In the following I offer such a test:

Oil of bitter almonds, $C_{14} H_6 O_2$, is, according to Liebig and Woehler, converted into benzoate of potassa by the action of caustic potassa in alcohol, by which, according to Cannizaro, also, benzalcohol is formed, a liquid heavier than water and insoluble in it, but soluble in all proportions in ether, alcohol and acetic acid. This decomposition seems to take place after this manner:

$$\underbrace{2\,(C_{14} H_6 O_2)}_{\text{Oil of bitter almonds.}} + KO, HO = \underbrace{KO, C_{14} H_5 O_3}_{\text{Benzoate of potassa.}} + \underbrace{C_{14} H_6, H_2 O_2}_{\text{Benzalcohol.}}$$

Nitrobenzole, when treated in the same way, undergoes a decomposition of quite a different nature; it parts with three equiv. of oxygen, which are supposed to combine with a part of alcohol to aldehyd, which under the influence of caustic potassa is again changed into a dark brown resin. The newly formed body $C_{12} H_5 NO$, or probably $C_{24} H_{10} N_2 O_2$, can be obtained in yellow crystals, is insoluble in water, soluble in alcohol and ether; it is the azoxybenzid of Zinin. The insolubility of this body in water, and the ready solubility of benzoate of potassa in the same menstruum, suggested to me the idea of employing caustic potassa as a test for nitrobenzole in oil of bitter almonds, and thus far it appears to be admirably adapted for this purpose.

About $\frac{1}{4}$ drachm of the suspected oil is dissolved in two or three drachms of alcohol, 15 grains of fused pure caustic potassa added, the mixture heated for a few minutes to dissolve the

potassa and expel most of the alcohol, until about one-third of the original measure is left, when it is set aside to cool. In several experiments made with pure oil in the above manner, the residue was a liquid of a brownish yellow color, without any sign of crystallization, and was wholly soluble in water, with but a very slight turbidity. The adulterated oil above referred to, on cooling, became a hard crystalline mass of a dark brown color, while a little caustic potassa remained in solution, free of color, below the crystals. The whole residue, when agitated with water, furnished a very turbid liquid, from which a large quantity of a yellowish brown sediment had separated in the course of a few hours; the supernatant liquor remained turbid after a week.

A small quantity of the adulterated oil mixed with the pure article furnished, after the above treatment, an aqueous solution, which, on standing a few hours, became clear, and deposited a yellow crystalline powder. With the proportional increase of nitrobenzole in pure oil of bitter almonds, the last solution retained its turbidity for a longer time, and the crystalline sediment increased in bulk.

The above test takes but a few minutes to perform, and the cost is a mere trifle; the operation is very simple, it does not require any apparatus, and may be made over a spirit lamp or in a water bath.

In connection with this, I would state that I have often found otherwise pure oil of bitter almonds adulterated with alcohol. The easiest way to detect the same is Redwood's method, by means of nitric acid; pure oil dissolves in this liquid at ordinary temperature without decomposition; a small quantity of alcohol, however, if present, is acted on by the nitric acid with the evolution of nitrous acid fumes. Nitrobenzole is likewise soluble in cold nitric acid without undergoing any change even on heating. The nitric acid test therefore ought not to exclude the potassa test, to be satisfied about the purity of the oil. How *small* a quantity, however, of *nitrobenzole* may be detected by means of caustic potassa, and how the *per centage* of such an adulteration may be readily found out, I am at present not prepared to say: future experiments, however, I hope, may determine these facts.

Philadelphia, Sept., 1857.

REMARKS ON SENNA PASTE.

Cambridgeport, (Mass.,) Aug. 29, 1857.

To the Editor of the Journal of Pharmacy :—

Dear Sir,—Some months ago I was led to consider the expediency of forming a senna paste, which should be stronger, more agreeable, and of milder operation than the officinal senna confection ; and at the request of an acquaintance, I made some experiments with reference to that object. The idea was originally suggested from noticing the kindly effects of the fluid extract of senna when made from the cold infusion, and the main difference between the proposed aromatic paste and the confection consisted in the use of the solid aqueous extract of senna instead of the powdered leaves.

In proposing a formula for such a preparation, it should be borne in mind, that the cathartic principle is to be increased and somewhat modified in its action, the paste is to be of firmer consistence than the confection, and the taste is to be improved. The first would be gained by using a sufficient quantity of solid extract of senna; the second by using an extract made from the cold infusion ; the third by adding gum arabic and perhaps powdered liquorice root, and the fourth by adding flavoring oils or spices, or both.

The following formula may serve as a guide to any one disposed to follow up the subject.

Take of Tamarinds,
Prunes,
Figs,

Solid Aqueous Ex. Senna, each . .	½ lb.
Gum Arabic, Sugar, each . . .	1 lb.
Pulv. Liquorice root, ...	4 oz.
Pulv. Coriander, ...	2 oz.
Fresh Oil Caraway, ...	1 dr.

Boil the figs, prunes and tamarinds in water, and rub through a coarse seive, allowing the seeds of the figs to pass. Dissolve the sugar and gum in as little water as possible and strain. Add this product to the fruity pulp, and evaporate to a dense consistence. Add the extract, previously softened by a gentle heat, and stir until well mixed. Then add the liquorice root, and when

nearly cold, the oil of caraway, beating until well incorporated. Transfer to a drying closet, and cut in squares, or run in moulds for use. The cakes might for better preservation be encrusted with sugar, or dipped into an ethereal solution of tolu.

The proportions here given I do not propose as the best that could be taken. Any skilful apothecary will understand the manipulations required, and is competent to modify and improve upon these hints.

I must in honesty confess that the result of my trials was not satisfactory. The paste did not seem to possess much advantage over the officinal preparation, and from its tendency to absorb moisture, was decidedly inferior, as an article to keep on hand. Again, senna when administered in substance, has always appeared to me to act more kindly than when given in infusion or tincture.

The confection of senna is brought into disrepute from the fact that druggists do not generally prepare, as they ought, what they require for dispensing purposes, and there is little in the market made according to our Pharmacopœia. When so made it is "One of our best and most pleasant laxatives." Undoubtedly the general omission of Cassia Fistula weakens its cathartic power, an omission which is excused on the ground of a want of supply. I have never found any great difficulty in procuring the article, and believe with the authors above quoted, that should a demand be created, a plentiful supply would be sure to follow.

Very respectfully your obedient servant,

HENRY THAYER, M. D.

SOME NOTES ON THE MANUFACTURES OF GRASSE AND CANNES.

By DANIEL HANBURY.

That portion of the South of France which borders the Mediterranean between Toulon and Nice, is noted for its mild, salubrious climate, and also for the growth and manufacture of several productions of interest to the druggist and the perfumer.

A recent visit to the district in question, and especially to the

towns of Grasse and Cannes, having given me the opportunity of seeing something of the manufactures there carried on, I have thought that a few lines on the subject might prove acceptable to the English readers of the *Pharmaceutical Journal;* let it be remembered they are but the notes of a passing stranger, and as such not to be taken for more than they are worth.

Grasse is a town of some 13,000 inhabitants, lying at the foot of a range of mountains, and open to the Mediterranean, from which it is distant about eight or nine miles. The olive is cultivated in great abundance in all the adjacent country, and grows far more luxuriantly than in many other olive districts of the South of France. The mildness of the climate is still more manifested by the orange trees, which, with here and there a date-palm, form a striking ornament of the little town gardens of Grasse. The other plants that are cultivated are the Rose, the Jessamine (*Jasminum grandiflorum* L.,) Mignonette (*Reseda odorata* L.,) and Tuberose (*Polianthes tuberosa* L.)

Cannes, a small town situated on the shore of the Mediterranean, about ten miles from Grasse, enjoys a climate still more favored. The orange is cultivated more extensively; the rose, jessamine, and other plants under culture at Grasse are likewise grown on a large scale at Cannes; and in addition we find the Geranium (*Pelargonium radula*, Ait., var. *β roseum*) and Cassie (*Acacia Farnesiana*, Willd.,) the latter in considerable abundance.

Two species of orange are cultivated about Grasse and Cannes, one known as the *Bitter Orange* or *Bigaradier*, the more esteemed and more extensively grown, the other as the *Sweet* or *Portugal Orange.*

Orange-trees are grown in all the country in the neighborhood of Grasse, but especially in places in the vicinity of the coast. When the season arrives, the flowers are collected by itinerant agents called *Commissionaires*, who bring them from the growers to the distillers, their remuneration being the small commission of one *sou* per *kilogramme*, or about $\frac{1}{4}d.$ per lb.

The finest Neroli and finest Orange Flower Water are distilled from the flowers of the Bigaradier. Inferior Neroli, not worth more than half the price of the finest, is yielded by the flowers of the Sweet or Portugal Orange. The essential oil called *Essence de Petit Grain* is distilled from the leaves of the

Bigaradier: the distilled water mixed with that of the flowers, is sold as an inferior quality of Orange Flower Water.

Roses are cultivated close to the town of Grasse, as well as in all the country adjacent, often on a very small scale and in situations apparently very arid. In the month of May the flowers are collected daily, and brought by the growers to the manufactories for sale.

The Rose Water of Provence is of a very superior quality: essential oil or Otto of Rose is separated from it after distillation. This otto differs from the Turkish, even from the purest specimens, in remaining congealed at a much higher temperature. In the market it commands a far higher price than the Turkish Otto, being worth from 1800 to 2000 francs the *kilogramme*. Equal to (say) 41*s*. to 45*s*. per oz. It is but little in demand, and the supply is comparatively small.

The Jessamine, which is cultivated upon an extensive scale, is *Jasminum grandiflorum* L., a species with large white, exceedingly fragrant flowers. The plants are all grafted upon stocks of *Jasminum officinale* L.: they are planted close together in rows, and are not allowed to attain a height of more than about two feet. They are kept of this low stature in order to facilitate their protection from cold, which is effected by heaping the earth completely over their stems at the commencement of winter. Jessamine flowers are in season in July and August: they are chiefly employed to communicate their odor to oils and pomades. Jessamine water was shown to me by one manufacturer.

The *Cassie*, *Acacia Farnesiana* Willd., is cultivated chiefly about Cannes, where it is to be seen forming a bush or small tree. Its flowers, which are very fragrant, are used in perfuming oil and pomade: they are produced in September, and are worth five to six francs the *kilogramme*.

The Geranium is cultivated for the purpose of obtaining its essential oil. The Tuberose is grown at Cannes as well as at Grasse, its deliciously fragrant flowers being used, like those of the *Cassie*, for scenting oil and pomade.

The establishments where the distillation of essences and waters and the manufacture of other articles of perfumery are carried on, are many of them of considerable extent, and kept up in a style of great completeness. The stills are of copper, and heated

by a naked fire; they are mostly, if not all, of small size, compared with the great stills used in this country. Their small capacity is, however, compensated by their numbers, some manufacturers having a dozen and others twice that number. In one operation which I saw in progress, the charge of the still with leaves of the Bigarade Orange was about 80 lbs.

In addition to the manufacture of essential oils, an important branch of industry consists in the preparation of scented fatty oils and pomades. These are prepared by one of two processes, called respectively *Infusion* and *Enfleurage*.

Infusion consists, as the name implies, in infusing the substance whose odor is to be extracted, in a mixture of lard and beef-fat melted in a water-bath, or in warm olive oil. The chief substances thus treated are the flowers of the Rose, Cassie, Bitter Orange and Violet. Mignonette is also sometimes subjected to this process. The flowers are immersed entire, except in the case of Orange Flowers, which are previously bruised. After immersion in the fatty menstruum for a requisite period, the mixture is strained off and the residue pressed. The pomade is preserved in large metal vessels, some of which have a capacity of 300 *kilogrammes*.

The process of *Enfleurage* is resorted to in extracting the odor of the flowers of Tuberose, Jessamine, and Mignonette. The apparatus required is merely a number of shallow wooden frames of about 18 by 15 inches, enclosing at half their depth a sheet of glass. The edges of the frames rise about an inch above each surface of the glass, and being flat, the frames stand securely one upon another, forming often considerable stacks. The technical name for the frames is *Chassis:* those just described are called *Chassis aux vitres*, or *Chassis aux pommades*, to distinguish them from a different form, which is used where oil has to be submitted to the process of *Enfleurage*. The process in the case of pomade is thus conducted: the unscented fat (which has about the consistence of spermaceti ointment,) is weighed into portions, each sufficient for one side of the sheet of glass of a *chassis*. It is then spread over the glass with a spatula in a layer hardly a tenth of an inch thick, care being taken by employing a little inner frame during the spreading, that the fat does not come in contact with the woodwork of the *chassis*. One surface

of the glass having been thus coated, the other is coated in like manner; and the *chassis* is ready to receive the flowers. These are now thinly sprinkled, or rather laid one by one upon the surface of the fat, where they are allowed to remain until the next day or day after, when they are removed and fresh flowers supplied. The *chassis*, charged with fat and flowers, are stacked one upon the other, forming in fact a number of little rectangular chambers, the upper and lower surfaces of each of which, are of glass covered with a thin layer of fat sprinkled with flowers, the sides being of wood. In one manufactory which I inspected, only one surface of each *chassis* was coated with fat, the jessamine flowers being placed in an abundant layer upon the other surface: in another establishment, flowers of mignonette were being similarly treated. In this arrangement the flowers do not, of course, come in contact with the fat, but the latter is simply suspended above them to receive and absorb their odor. The flowers require changing either daily or every other day for forty or fifty days before the pomade is sufficiently impregnated with their odor. It is essential that all flowers employed in this process should be collected during dry weather.

When oil has to be impregnated with the odor of flowers, a *chassis* is used which is of larger size, and has a diaphragm of coarse wirework instead of glass. Upon this diaphragm is laid a cotton cloth of a peculiar, thick, absorbent texture, soaked with oil; flowers are then spread upon it, and renewed daily until the requisite odor has been obtained. The oil is then pressed from the cloth and filtered: each cloth imbibes about 2 lbs. of oil.

The preparations called by the perfumers *Extracts* are made by treating the highly-scented oil or pomade with spirit of wine, so as to dissolve out the essential oil which either may have absorbed from the flowers with which it has been placed. This process is more usually conducted by the general perfumer than by the distiller and manufacturer of Grasse or Cannes, the business of the latter being more particularly with what he terms the *matières premières*. The pomade or oil, after having yielded to spirit the greater portion of its odor, is yet valuable for other purposes to which the manufacturing perfumer can readily apply it.—*London Pharm. Journ., Sept.* 1, 1857.

ON HUANOCHIN, AN ALKALOID IN PERUVIAN BARK.

By B. H. Paul, Ph. D.

Some ten years since a sample of bark was imported into Bremen, which was at first sold under the name of *Cortex Peruv.*, and described by Delondre and Bouchardat under the name of *China de Huanuco plana.* It appeared to have been collected from *C. nitida* in the woods of Huanuco. Hr. Erdmann describes this bark as being generally free from periderm, and presenting the greatest resemblance to *China calisaya* (*regia plana,*) but differs from it in the loose texture, slender wedge-shaped form, in the irregular cavities in the surface of the derma, and in the thin, soft, fissured periderm, covered with colored lichens and fungi.

When chewed, this bark has a sharp taste, but is not astringent or bitter, and it contains a peculiar alkaloid, to which Hr. Erdmann has given the name of huanochin. He obtained it by the following method :—

Four pounds of the crushed bark was boiled with 54 pounds of water and two ounces of hydrochloric acid (1.2 sp. gr.,) pressed, and again boiled with fresh acid and water twice. The clear liquids were mixed with caustic soda until slightly alkaline, and the precipitate thus produced was washed with water and dissolved by acetic acid, which left a reddish-brown residue. Caustic soda precipitated from the acetic solution a tolerably colorless substance, which was digested with alcohol until nothing further could be extracted. The alcoholic solution was decidedly alkaline, and when concentrated, yielded shining crystals, which were rendered colorless by means of animal charcoal and recrystallization. One pound of bark yielded about one drachm of the alkaloid.

The characters of this base show that it differs from quinine as well as from the other bases of bark. It crystallizes in small prisms and has no taste, though the alkaline solution is slightly bitter. It is almost insoluble in water, at 62° F. it dissolves in 400 parts of alcohol of 80 per cent., and at the boiling point in 110 parts of alcohol. It dissolves in 600 parts of ether at 62° F., and in 470 parts of boiling ether. It melts readily and sublimes ; it burns with a smoky flame, and does not leave any residue.

The sulphate of this base is almost insoluble in water, readily

soluble in excess of sulphuric acid, sparingly soluble in alcohol and in ether. The hydrochlorate is copiously soluble, crystallizes in large clear prisms of a very bitter taste.

The double salt with chloride of platinum is a pale yellow crystalline powder, sparingly soluble in hot water, alcohol, or ether, but more soluble in excess of chloride of platinum, from which solution it may be obtained in well-developed crystals.

The soluble salts of this base give with caustic and carbonated alkalies, white precipitates; with infusion of galls, a white precipitate; with chloride of gold, a yellow precipitate; with perchloride of iron, potassio-tartrate of antimony, sulphate of copper, iodide of potassium, and oxalate of potash, they do not give precipitates. Chloride of mercury forms with it a white insoluble double salt.

The analysis of this base and of its hydrochlorate and the double salt with chloride of platinum gave the following results for 100 parts :—

					Calculated.
C.	77.54	77.68	—	.....	77.92
H.	7.73	7.76	7.71	.....	7.79
N.	8.81	—	—	.....	9.09
O.	—	—	—	.....	5.15
					100.00

The hydrochlorate gave 19.30 per cent. of chlorine, and the platinum compound 27.81 and 27.80 per cent. platinum.

These members agree with the formula $C_{20}\ H_{12}\ NO$, which requires 18.63 per cent. chlorine, and 27.50 platinum. This base is therefore isomeric with quinine.

The therapeutic value of the hydrochlorate of this base has been tried by Drs. Homeier and Schmidt, both of whom consider that it is an efficient remedy for intermittent fever.

OCCURRENCE OF TANNIC ACID IN PLANTS.

By B. H. Paul, Ph. D.

It has been thought that tannic acid is not one of the earliest products of assimilation in the plant organism, but rather among the number of substances which are not included within the circle of vital action; that it is a product of the oxidation of cells that have lost vitality. Dr. Karsten has been led to question the cor-

rectness of this opinion, by his observations made upon the fruit of *musa sapientum*, which in the ripe state contains a very large amount of sugar, and in the unripe state is full of starch granules, with the exception of some longitudinal rows of wide tun-shaped cells, lying in the midst of the starch tissue, similar to sap vessels, and arranged concentrically in the substance of the fruit. These wide cells contain a clear juice, with small floating transparent vesicles, which give a fine blue color with perchloride of iron solution, while the other parts of the fruit do not give any such coloration. He considers that there is no doubt the tannic acid in this case is produced in the midst of the starch tissue, and not in parts of the plant that were subject to incipient decay, but in those parts which are in a state of normal development. The leaves of this plant contain tannic acid in rows of cells, and in vessels formed of the union of such cells. Dr. Karsten has observed the same fact in a number of other plants. In some instances the cells and vessels containing the tannic acid become very much thickened, which would seem to support Pettenkofer's opinion, that the production of tannic acid is closely connected with the production of wood.

The parenchyma of leaves also contains tannic acid in the cell juice. In gall-nuts the whole tissue is saturated with this substance. It would seem that a vessel containing tannic acid, which in the oak is produced in the wood cambium, is punctured by the insect, and in this way an opening is made, through which the tannic acid is poured into the tissues, and gives rise to the abnormal condition of the organs.

According to Dr. Karsten, tannic acid does not occur free in plants, but combined with another substance that is coagulated by alcohol and by acids. This compound is decomposed by contact with atmospheric air, and then the reaction with perchloride of iron takes place. This is shown by the fact, that when a cutting of a plant is immersed in perchloride solution, the tannic acid does not enter into combination with the iron until the cutting, after being impregnated with the solution, is exposed for some time to the air. It is only in those tissues of plants which are exposed to the atmosphere, by pores or otherwise, that the blue coloration indicative of tannic acid is produced immediately, by the application of perchloride of iron.—*London Pharm. Jour. September* 1, 1857.

THE SOLVENT POWERS OF GLYCERIN.

By John S. Blockey.

Some time back, having occasion to experiment with the disulphate of quinine, I accidentally discovered that glycerin, if gently heated, will dissolve more than 8 grs. per fluid drachm, or about one-twelfth of its weight of this salt; this fact will render glycerin a valuable vehicle for the therapeutical administration of quinine, as I noticed in a communication to the "*Lancet*" a few weeks ago. I have since found that glycerin appears to possess properties that may, perhaps, give it a place among the usual dissolving substances; for instance, salicin soluble in 22 parts by weight of cold water, and in 30 parts of 80 per cent. alcohol, will dissolve in 8 parts of cold glycerin; santonin soluble in 250 parts of boiling water, and in 3 of boiling alcohol, will dissolve in 18 parts of boiling glycerin; the solution, however, becomes thick and almost solid, with only one grain of santonin in 36 of glycerin on cooling, and a saturated boiling solution of santonin in glycerin, when cold may be inverted without loss.

Strychnia is soluble in 80 parts of boiling glycerin, but very slightly in cold.

From these experiments it appears that many substances are soluble in glycerin, in a very different ratio to their solubility in water, &c. Iodide of lead dissolves sufficiently in boiling glycerin, to cause the solution to become turbid on cooling. Aconitina is scarcely soluble at all in this medium. May not glycerin be found a solvent for many other comparatively insoluble substances, both in the inorganic and in the organic kingdom?

I invariably heat the glycerin to give it greater fluidity, and the quantity that may be thus dissolved, the solution remaining clear on cooling, I estimate as the quantity soluble in cold glycerin.—*London Chemist, September*, 1857.

PREPARATION OF IODIDE OF BARIUM FROM WITHERITE.

By C. R. C. Tichborne.

As iodide of barium is used in photography, and as iodide of aluminium (another salt proposed as an iodizer) may be made

from it, I give the results of some experiments to which I refer in this month's *Photographic Journal*, considering that they may be useful to the manufacturing chemist.

On treating powdered witherite with iodide of iron, we do not get a complete decomposition even after prolonged ebullition. To decompose it, native carbonate is generally heated with charcoal, which accelerates the decomposition, as it requires a violent heat to drive off the carbonic acid from the witherite alone.

If we keep a mixture of witherite and half its weight of iron filings or borings (those from malleable iron are preferable) at a slow red heat for some time, in an iron or black lead crucible, the carbonate is decomposed, carbonic oxide being liberated. The heat must not be sufficient to run the iron. If the roasting has been carried far enough, the contents of the crucible are found to be strongly alkaline. On adding water and iodine, and then boiling for some time, the iodine forms iodide of barium, combining first with the excess of iron, and is then converted into the barium salt. The residual precipitate, which seems somewhat similar in composition to artificial magnetic oxide of iron, is, from its density, easily washed. The liquors, on evaporation, yield crystals of iodide of barium, which on recrystallization are chemically pure.

This process is much preferable to that of making hydriodic acid and dissolving the carbonate in it, particularly when operating on a large quantity.—*Ibid.*

DECAY OF GUTTA PERCHA.

From the reports of Mr. E. Highton on the state of the underground wires of the British Electric Telegraph Company, published in the *Journal of the Society of Arts*, it appears that wherever the wires had passed near the roots of oak trees they had failed, whilst in other parts, only a few yards distant, they were perfectly sound. On examining the soil a whitish looking plant was detected, resembling the spawn of the mushroom, or some other fungus; the plant had spread over and around the wooden trough, covering it with a whiteness resembling whitewash, and wherever it had touched the gutta percha wires the gutta percha was rotten; a yellowish-green fungus, of which this

plant was supposed to be the spawn, was found growing luxuriantly under the oak, but not under any other tree. The plant possesses a powerful odor, at once detected on breaking the soil. The presence of the plant and the decay of the wires were found coincident; the absence of the plant and a most perfect state of the wires coincident also. It was found that the wires in one locality passing under two oak trees were not injured; in this case no fruit of the fungus could be found in the soil, although plentiful under other oak trees in the neighborhood. With reference to the decay of gutta percha in iron tubes it was found at Winslow that the wires through the entire lengths of the iron pipings were in a state of decay, whilst the wires in the wooden boxing were found perfect. The decay in this case appears to be produced by a cause entirely different from that under the oak trees. The following is the result of Mr. Highton's investigation:—

With reference to my experiments on the action of the mycellium of a fungus on gutta percha, I have for some months been growing one of the class called *agaricus campestris* in contact with gutta percha.

1. find as the result that the mycelliem of this fungus does rapidly destroy the insulating properties of gutta percha; and in fact it appears to decompose entirely this vegetable gum. I send a sample showing the decay.

I am trying further experiments, an account of which I hope ere long to lay before the Board.

A few days ago I examined a spot near Canterbury, where the gutta percha of the wires had entirely decayed.

The soil was pure, clean, sharp, red sand, and there appeared nothing in such soil to induce decomposition.

But at that spot I found a young oak tree, which could only derive its nourishment from the ground through which the wires passed. And upon theses roots, both living and dead, I found what I believe to be the mycellium of a fungus, the same as that which I discovered under the oak trees at Berkhampstead.

I send with this some of those roots upon which the fungus can be distinctly traced. The odor arising from that fungus appears to be identically the same as that from the fungi at Berkhampstead.

Ten yards distant was also another young oak tree, and at that point the gutta percha of the wires had also decayed. I will again communicate with the Board when I have made further investigations, but at present I feel bound to say that the presence of the mycellium of a fungus, and the decaying of the gutta percha covering of the telegraphic wire, being so constantly associated together, I can come to no other conclusion than this—viz., that the mycellium of a fungus will cause decomposition in gutta percha, and probably in most other vegetable productions.—*Lond. Pharm. Journ. Sept.* 1857.

DESTRUCTION OF THE GUTTA PERCHA TREES IN SINGAPORE.

A correspondent of Hooker's *Journal of Botany* makes the following observations on the destruction of the gutta percha trees in Singapore :—

"I have commenced to collect all the different guttas that are brought to Singapore in the Malay and Bugis prahus, and when I have succeeded in procuring specimens of the principal part of them, I will send them to you.

"Many of those passing under different names, however, are merely different qualities of the same stuff, or prepared in a different manner. Seeds of the gutta percha tree, and flowering specimens of the plant, I am afraid I shall not be able to procure in Singapore, as we have nothing but very small trees left in the island now; all those old enough to yield even a very small quantity of sap having been cut down by the Malays; but Sir James Brooke, who has been staying here, has promised to send me both from Sarawak, where there is no difficulty in procuring them, there being abundance of full-grown trees still.* The trees are always cut down here to procure the sap, though I have no doubt it is very bad policy to do so, since by tapping

* "The Borneo gutta percha, we believe, is much less esteemed than that of Singapore, and from specimens of the leaves that have been sent us by Sir James Brooke, it would appear that the species is different from the true gutta percha. The veritable *Isonandra gutta* has, however, recently been detected in Sumatra, and a specimen has been sent to us by our excellent friend Professor de Vriese, of Leyden.—Ed."

them a good quantity of sap easily runs, and it might be repeated again after giving the trees a reasonable time to recover. Natives will never consider any future advantage, their great object being to get the largest quantity at a time. Their argument, too, that unless the trees were private property, and could be looked after, it would be impossible to protect them from one's neighbors, is very true; and this would be quite out of the question in the extensive forests where the gutta trees are found. At some future period, I have no doubt the gutta percha tree will be quite extirpated in all the countries about Singapore. Being always cut before it has a chance of seeding, it cannot continue to exist unless the price rises to such an extent as to make it worth while planting the tree on private property.

"It is to be found (the identical species?) over nearly the whole Archipelago that is inhabited by the Malay race, but as far as I know does not extend further to the east. True gutta percha is called *gutta tabban*; most of the other guttas are varities of caoutchouc. Neither the Malays nor the Chinese make much use of gutta percha, as far as I have seen. Knife-handles and small buckets seem to be the principal uses they put it to; it is sometimes made into bands for tying things with also, but I have not often seen it used in this way.

"The quantity of gutta percha exported from Singapore in 1855 was about 1900 tons, but this year it will be much short of that amount, probably not over 1500 tons. Its present price is 22 dollars per picul (133⅓ lbs.) for good quality.

"P. S. The principal other vegetable substances exported from here are gambier, camphor, sago, pepper, coffee, sugar, sapan-wood, mangrove-bark, nutmegs and mace, rattans, canes, cubebs, gum benjamin, dragon's-blood, gamboge, vegetable tallow, vegetable wax, gum copal, cloves, tapioca, arrowroot, rice, cassia, gum elastic, sea-weed, sandal-wood, galangals, rhubarb, cutch, ginger, teel-seed, ebony, cocoa-nut oil, wood oils, betel-nut, cardamoms, China-root, timber, besides others which escape my memory at present."—*London Pharm. Journal*, 1857.

SOLUBILITY OF IRON AND OF GELATINOUS PROTOXIDE OF IRON IN COD-LIVER OIL AND OTHER FIXED OILS.

By M. Vezu.

1. Metallic iron and gelatinous protoxide of iron dissolve in the cold in cod-liver oil.

2. Water is, in most cases, required to promote the solution, excepting with iron reduced by hydrogen, which dissolves without such aid.

3. Oil of sweet almonds dissolves iron, and acquires a mahogany red color.

4. Olive oil, castor oil, &c., dissolve iron without becoming sensibly changed in color.

5. Oxide of iron dissolves with more facility, in proportion as it has been more recently prepared, is humid, and has not been exposed to the air.

6. Iron dissolved in oil is always found in the state of protoxide.

7. Ether dissolves these oils, just as it would the same oils in their natural state.

8. The other oxides of iron are scarcely at all soluble in oils, either with or without the aid of heat—*London Pharm. Journ., Sept.* 1857, *from Rep. de Pharm.*

Varieties.

On the Iron-Wood of Borneo.—Hooker's Journal of Botany contains a letter from James Motley, Esq., from which we make the following extracts. Mr. Motley writes from South Borneo, January 10, 1857.

With the introduction to the "Flora Indica" I was very much delighted, and above all with that most excellent chapter on variations of species.

I have at this particular station some beautiful opportunities of studying these variations from the great varieties of soil, from salt-marshes, through fresh water-marshes, gravel, coal-rocks, green-stone, and metamorphosed coal-rocks, up to the great range of serpentine hills which bound our coal-field. I have particularly observed the marked effect of this last soil (serpentine) upon the color of flowers; a very great number of plants, having red or purple flowers, become pale or white on the serpentine.

I believe I have hit at last upon the right way of drying succulent plants, and such as are to come to pieces; and if nobody has thought of it before.

it is really worth telling you. I had previously tried hot water, but that made the specimens mouldy; then a hot iron, but that is tedious, and it spoils the flowers; pricking the leaves all over with a pen-knife or a fork, so as to let the water escape, is a great assistance to the drying of Orchidæ and Hoyas, but the specimens look unsightly after it; and chloride of calcium paper is too much trouble, except for an occasional pet specimen. I now simply put the plants into a large bottle with weak spirit for one or two nights; this effectually kills them, and an endosmosis goes on in the tissues which breaks them up, and makes them dry almost as quickly as other plants.

The wood of the Kayu Oulin, or Iron-wood of Borneo, is perhaps the strongest in the world. I tested a piece of it, one inch square, and forty-two inches between the supports, and it bore, suspended from the centre, 338 lbs. before it gave way: its deflection was then about eight inches. I believe this is the greatest strength recorded of any wood. The wood, when fresh cut, is light-brown, but becomes of a deep reddish-black, and finally quite black when old. It is used here by the natives almost universally for boats and houses, though very heavy. It is now becoming scarce, and difficult to procure in large pieces, except from the interior of the country, where it must exist in large forests. The trees are large and majestic, the trunk very straight and the bark thin and scaly. This wood appears to be almost indestructible. A sort of paling or stockade which surrounds the Sultan's house at Martapora, is known by undoubted evidence to have been standing a hundred and thirty years, without even the protection of paint, and it shows no signs of decay; and the old Kraton, or palace, is still older. It is built entirely of Oulin, and the enormous posts and beams are all over elaborately carved, and have been formerly painted and gilt in arabesque; but this magnificent room is now neglected and disused, except on great occasions. All over the padangs or great grassy plains of this country, the Oulin clumps stand up, white and ghastly mementos of the vast forests which once covered the whole district, and of which the oldest natives have no recollection; the stumps were there when they were young, and to all appearance will be there for a hundred years longer. In many cases they are hollow, and then a large tree has frequently grown in the centre, and by its gradual increase split the Oulin into three or four pieces. In some places the padangs are covered with trees, which thus look as if they grew in huge flower pots, and whose roots squeeze themselves in strange shapes through the cracks of their ancient pedestals, which have preserved them when young from the fires which, in the dry season, sweep roaring and cracking across the padangs, destroying every living leaf.

The trees chiefly seen in the padangs are Vilex tomentosa, Emblica officinalis, and some two or three others, whose bark, being very full of sap, resists the fire for a moment or two. That is enough, for the tempest of flame, fed only by grass, is gone in an instant; and when a tree has, by one accident or another, survived three or four years, it is safe from such

immediate destruction. These padang trees, however, after all, are destined to perish by fire. A bit of bark is killed or knocked off, perhaps a dead stick has rested against it, and given the fire time to kill the bark, or a buffalo rubs his horn, or a pig whets his tusk there. Then the verdict has gone forth; next year the bit of bare dead surface burns long enough to kill further the edges of the wound, which is next year, and every year, more and more extended, till the tree stands up, as upon a stick, which gives way to the first storm, generally however alive to the last moment, Wherever a group of trees, other than of these few species, is seen on the padangs, it is a pretty sure sign of nearly bare rock, or gravel, too barren to carry Alalang (Imperata Kœnigii) sufficiently thick to conduct the fire. The changes in the appearance of these vast grassy plains within a few days is indeed singular. After the long dry weather they are a light greenish-yellow; the fire passes, and leaves them black; in three days more they are the lightest and freshest of green again; and in ten days after the fire they are white; as if a snow storm had fallen upon them, with the waving plumes of flowers, which never appear except after fire, though it be delayed several years.

Of course these fires destroy all that is above ground of thousands of sapling trees, but the roots remaining alive throw up fresh shoots; these in their turn are burnt off year after year, fresh shoots are thrown out from the edges of the stool, which becomes at last a thin distorted disc of wood, fixed to the ground by innumerable perpendicular fibres, and burnt perfectly smooth on the upper surface. These bare stools, sometimes eighteen inches in diameter, have a strange appearance immediately after the fire, but are soon again hidden by the grass.

On Chinese Botany and Pharmacology, and the Latest Russian Researches Thereon. By Dr. Lotsky. It is necessary to premise, on the present occasion, that the Russian Government is the only one which, since the last century, entertains an especial Diplomatic Mission at Pekin, located in buildings of great extent. Amongst the staff of the mission is also a Medical Officer, whose term of residence in China was formerly fourteen years, but has been lately shortened to seven. Several of them have occupied their leisure in researches on the different departments of Chinese medical science.

It was thus that Dr. Kiriloff had collected, so far back as the year 1841, 127 different Chinese drugs, which he brought with him to Russia, and where they were first deposited in the Foreign Office of St. Petersburg. In the year 1847 these specimens were transferred to the Museum of the Medical and Surgical Society of St. Petersburg, and Mr. A. Horaninoff, member of the Academy, and Actual Privy Councillor, was commissioned, by an especial order of Nicholas I., to study them and to make a clinical examination thereof. As a preliminary, Dr. Kiriloff had made extensive researches into a large number of Chinese medical works,—a kind of

Eastern literature, but very little known hitherto in Europe ; but by the knowledge of which alone a clue to the usage of unknown Chinese drugs could be obtained. In the meantime the members of the Medical and Surgical Academy had examined them chemically and physiologically. Finally, forty Chinese drugs (unknown in Europe), were tried on thirty-seven hospital patients with the most satisfactory results.

While these researches were going on in St. Petersburg, Dr. Tatarinow, who had remained ten years in China, returned home in 1851. The doctor had studied and translated Chinese medical works while in China ; he had made collections in Pekin, and in a radius of 300 kilometres around that capital, so far as Mongolia, the results of which were 800 species of plants in a number of dried specimens for the herbarium, and a vast collection of 500 sorts of drugs, some in such quantities as to allow a large scope for experiments and *exchange* with other medical establishments in Europe. At the same time most of these plants had been drawn in a superior way, in folio, by a Chinese artist, but as Dr. Tatarinow superintended the painting, most detailed analyses of the plants are added, which greatly enhance the value of the collection. Very interesting in these portfolios are the many varieties of the genus prunus, pyrus, malus, (plums, pears, and apples), exhibiting most curious and monstrous forms of these trees and their fruit, originally brought here from *other* parts of Asia. If the accuracy of Chinese chronology, with its vast series of years, could obtain any additional evidence, it might obtain it from these forms of cultivated fruit. Ages must have passed by, until the very nature of organisms could have become thus changed, and, as it were, transmuted. This portion of Dr. Horaninoff's intended work will not be the least interesting for phytology and horticulture, as it is known that the Chinese, who can rear an oak-tree with acorns only a span high, are very expert in the latter branch of science.

From the collections of Drs. Koriloff and Tatarinow, it would appear that the Chinese possess drugs and medicines innumerable. Some of them, as derived from Dr. Horaninoff's note-book, are radix Sophoræ flaviscentis radix ginseng, caules Ephedræ, radix Rupaliæ, Ptlolycodonis, Epimedii, Ari tryphilli, &c. These and the other remedies were found very efficacious in chronic diseases, which yielded in the usual proportion of cure and failure, and *only* in a few cases the additional aid of European remedies was to be called in. As, however, the Chinese therapeutics prescribe *larger doses*, taken several times a day, the Commission waved this, and conformed more to the rules of European medicine. Privy Councillor Horaninoff, known as a deserving author on botany and materia medica, and whose Russian works have much advanced medicine in his native country, has been commissioned to compile the volumes on Chinese botany and pharmacology, which, as they will be printed in the Offices of the Academy of Sciences of St. Petersburg, will probably be as splendid as the "Antiquitées du Bosphore Cimmerien,"—one of the finest productions issued from

any press in modern times. Dr. Horaninoff had visited, last autumn' Berlin and London, to exhibit his *Icones Sinicæ* and his drugs to the learned of both these cities. Amongst the specimens of his collection was the root of an orchidean (?) plant, which, resembling the human form, is sold, by the superstitious Chinese, at the weight of gold. It appears that they know sublimate and arsenic, but make no use of it in medicine. We may judge from their preparation of Indian ink, that they must be in possession of most curious chemical contrivances. They have no medical schools; abhor anatomy; but their medical men must, when employed by the Government or their towns, undergo an examination from their old medical authors and text books.

It cannot be doubted that the knowledge of about 600 sorts of new drugs, collected in a country extending from the tropic to the snow of the Altai, will have an influence on the condition of materia medica and medicine in general. The analogy between such an expanse of country, and the strip of tropical America, whence we have derived the Peruvian bark and balsam, sarsaparilla, &c., is still increased, if we consider that in China the experience of thousands of years is to be thrown into the scale. On the other hand, the "National Chinese Party," the offspring of European influence and initiation, are panting after European instruction and teachers. Thus, while the work of Dr. Horaninoff is in preparation, the medical men of Europe, visiting China under present emergencies, may know that they are on a spot where great sources of scientific and commercial importance are yet to be discovered.—*London Chemist, August*, 1857.

Imported Drugs.—Extract from the report on the Progress of Pharmacy made to the American Pharmaceutical Association, September 1857:

"As regards the state of the drug market, the Committee have not been able to obtain such data as will enable them to report on the general condition of the market at this time. To do this correctly, they should have access to the books of the inspectors of drugs, and be assisted by the large druggists and manufacturers, sources of information as yet but partially accessible, as business men have a strong dislike to giving statements on paper in reference to the drug trade.

The Examiner of Drugs at the port of New York, Dr. Merkle, at the solicitation of Mr. Dupuy, was so obliging as to present the Committee with a complete copy of items of drugs passed from day to day, from June 1st to August 31st, inclusive, a document of 25 pages foolscap. We have carefully condensed this list so that each drug or preparation constitutes but one item; and all the quantities of each kind, after being reduced as far as practicable to the same standard of weight, have been added together. In this way we are able to present at one view the entire drug importation at the port of New York (which embraces two-thirds of the entire amount brought into the country) during the period mentioned. We believe this catalogue, if kept up, will be a valuable appendage to the annual report on the Progress of Pharmacy. It is as follows:

Quantities of the various Drugs and Medicines that passed the Custom House at New York, during the Quarter ending August 1st, 1857.

Gum Arabic	63,419	lbs.	
Gum Galbanum	1556	"	
Rad. Ipecacuanha	3640	"	
Secale Cornutum	2028	"	
Peruvian Bark	125,457	"	
Cream of Tartar (crys.)	421,304	"	
Opium	26,620	"	
Colocynth	1297	"	
Sulphate of Potassa	1476	"	
Iodide of Potassium	6220	"	
Sugar of Milk	620	"	
Bermuda Arrow Root	18,883	"	
Pulv. Rhei Borussici	233½	"	
Ol. Anisi vulgaris	278	"	
Flores Sulphuris	22,304	"	
Verdigris	239	"	
Cap. Papaveris	1186	"	
Rad. Gentianæ	14,413	"	
Ol. Crotonis	249	"	
Sulphate of Magnesia	53,420	"	
Supercarb. of Soda	1,707,100	"	
Brown's Cantharidin Tissue	190	doz.	
Murray's Magnesia	60	"	
Acid Tartaric, cryst.	37,241	lbs.	
Sal Sodæ	5500	"	
Potassæ Chloras	5816	"	
Sulphate of Quinine	26,996	oz.	
Ammoniæ Carbonas	13,107	lbs.	
Ammoniæ Murias	28,599	"	
Oleum Ricini	73,000	"	
Barytæ Sulphas	38,639	"	
Rad. Salep	775	"	
Ext. Glycyrrhiza	61,207	"	
Acid Citricum	7001	"	
Fol. Sennæ Alex.	5082	"	
Seidlitz Powders	12	doz.	
Hooper's Pills	84	doz.	
Crude Camphor	22,675	lbs.	
Rad. Rhei Chinensis	59,745	"	
Rad. Valerian	3835	"	
Rad. Taraxaci	857	"	
Santonin	101⅛	"	
Acid Gallic	125½	"	
Fol. Rosmarini	1264	"	
Ol. Succini Rec.	600	"	
Ext. Cannab. Ind	112½	"	
Pil Hydrargyri	225	"	
Cubebæ	3400	"	
Gambogia	2480	"	
Sem. Anethi	50	"	
Ol. Sinapis	12	"	
Ol. Carui	175	"	
Ol. Chamomile Rom.	3	"	
Ol. Coriandri	15⅛	"	
Rad. Pareiræ Bravæ	491	"	
Flor. Cassiæ	975	lbs.	
Acid. Sulphuric, Nordhausen	135	"	
Tragacanth	4483	"	
Buchu	4595	"	
Manna (small flake)	120,446	"	
Sem. Agni Casti	14	"	
Senna, E. India	15,706	"	
Ext. Hyoscyami	118	"	
Ext. Belladonna	66	"	
Creta Præcipitata	1200	"	
Vin. Rad. Colchici	50	"	
Pulvis Antimonialis	50	"	
Syrup Rhamni Cath.	356	"	
Gum Benzoin	4183	"	
Bals. Copaiba	168	Canadas.	
	5567	lbs.	
Cornu Cervi Rasp.	681	"	
Rad. Scillæ	2769	lbs.	
Ol. Angelicæ	3	"	
Ol. Cardamomi	3	"	
Rad. Sarsaparillæ	119,538	"	
Cantharides	6455	"	
Sem. Cinæ Levant	6416	"	
Rad. Jalap	10,449	"	
Rad. Alcannæ	200	"	
Rad. Althææ	1153	"	
Rad. Calami	1625	"	
Ol. Lauro Cerasi	4	"	
Ol. Menthæ Pip.	4	"	
Ol. Amygdalæ Amaræ	119⅘	"	
Ol. Rosarum	40½	oz.	
Ol. Absinthii	5	lbs.	
Ol. Millefolii, Ess.	1	"	
Dr. Keeson's Ess. of Life	8	doz.	
Ol. Succini Crude	667	lbs.	
Rad. Iridis Florent	16,581	"	
Zinci Sulphas	3860	"	
Kousso	28	"	
Lapides Cancrorum	6	"	
Alcohol Ferri	10	"	
Bismuthi	21	"	
Canada Balsam	4744	"	
Ferri Carb. Præcipitat.	232	"	
Vin. Sem. Colchici	25	"	
Sodæ acetas	1150	"	
Flor. Malvæ arb.	64	"	
Rad. Aconiti	1390	"	
Rad. Anglicæ	150	"	
Bals. Tolu	1137	"	
Rad. Galangæ	1648	"	
Rad. Turpethi	24	"	
Agaricus	289	"	
Acid Acetic Crystal.	26	"	
Flor. Rosari Rubri	12	"	
Ol. Cacao Express	48	"	

Lapis Calaminaris.....20 lbs.
Gum Anime.....22 "
Sem. Staphidis Agriæ.....50 "
Rad. Guaco.....6 "
Ol. Petræ Alb.....165 "
Tamarinds.....329 "
Strontiæ Nitras.....380 "
Gum Euphorbium.....400 "
Aloes.....3212 "
Manna (large flake).....2542 Rottoli
Lycopodium.....141 lbs.
Howard's Calomel.....25 "
Emp. Adhesive.....20 "
Pulv. Rhei Russici.....5 "
Ext. Colocynth. Comp.....41 "
Ext. Lactucæ Viros.....2½ "
Ext. Digitalis.....3½ "
Ext. Aconiti.....10 "
Con. ec. Sennæ.....25 "
Con. ec. Rosæ Gallicæ.....25 "
Fol. Digitalis Elect.....247 lbs.
Fol. Conii Elect.....25 "
Fol. Belladonnæ.....235 "
Ol. Amygdal. Dulcis.....2004 "
Potassæ Acetas.....300 "
Bismuth. Metal.....820 "
Dalby's Carminative.....3 doz.
Canella Alba.....3357 lbs.
Flor. Cham. Vulg.....279 "
Pill Ferri Iodid.....6 gross.
Cigarettes d'Espie.....106 scatul.
Flor. Chamomil Vulg.....162 lbs.
Flora Arnicæ.....417 "
Kreasote.....510 "
Cetraria Island.....944 "
Balsam Peru.....493 "
Fol. Hyoscyami.....687 "
Fol. Centaur. minor.....1200 "
Aloes (Capensis).....4084 "
Acid Acetic.....3829 "
Calomel.....450 "
Ext. Taraxaci.....240 "
Ext. Rad. Aconiti.....5 "
Uva Ursi.....1606 "
Flor. Tiliæ.....391 "
Fol. Aconiti.....130 "
Rad. Glycyrrhiza.....4261 lbs.
Ol. Origani.....2353½ "
Ol. Sabinæ.....94½ "
Henry's Magnesia.....36 gross.
Crocus Orientalis.....1 lb.
Resinæ Jalapæ.....3 "
Ol. Calami.....6 "
Moschus Tonquin.....45⅔ oz.
Magnesia Carbonat.....7525 lbs.
Magnesia Calcinat.....61,566 "
Ol. Melissa.....11 "
Ol. Valerianæ.....10 "
Assafetida.....7270 "

Sem. Cumini.....1211 lbs.
Sem. Anisi.....944 "
Sem. Cardamomi.....704 "
Chinoidin.....5200 oz.
Sem. Coriandri.....6000 lbs.
Acid Valerianic.....141 oz.
Cadmium Met.....20 lbs.
Cadmii Sulphuretum.....10¼ "
Valerianate of Ammonia.....30 oz.
Bromide of Ammonium.....114 "
Ext. Conii.....30 lbs.
Elaterium.....10 oz.
Ol. Lavand. Angl.....2 lbs.
Ol. Copaiba.....10 "
Lignum Guaiaci.....261 "
Ol. Animalis Fœtid.....20 "
Ol. Animal Æther.....1 "
Ext. Marrub. Alb.....2 "
Ext. Krameriæ.....5 "
Rad. Zedoariæ.....20 "
Sem. Cydoniæ.....4 "
Sem. Phellandriæ.....10 "
Sem. Papaveris Alb.....25 "
Cortex Chinæ Fusca.....6467 "
Ol. Cajuputi.....1140 "
Ol. Baccæ Juniperi.....156½ "
Ext. Rhei.....20 "
Amylene.....170 oz.
Zinci Valerianas.....5 "
Ferri Valerianas.....35 "
Quinia Valerianas.....1 "
Ferri Lactas.....104 "
Protiodide of Mercury.....2 "
Oil of Ergot.....203 "
Ferri Ammonio Citras.....3 lbs.
Aconitia.....132 grms.
Ferri et Quiniæ citras.....24 oz.
Iodine resublimed.....991 lbs.
Rad. Rhei Moscowensis.....901½ "
Chirayta.....74 "
Glycerin.....716 "
Nux Vomica.....10,800 "
Flores Sambuci.....521 "
Thymus Vulg.....212 "
Rad. Saponaria.....328 "
Cortex Curacoæ.....323 "
Flor. Papaveris.....105 "
Flor. Violæ.....105 "
Labdanum.....25 "
Sagapenum.....25 "
Tacamaca.....31½ "
Ext. Sarsap. Com.....2 "
Ext. Colchici acet.....1 "
Ol. Cumini vol.....20 "
Magnes. Citras Efferves.....161 doz.
Nitrate of Soda.....102,700 lbs.
Acid Boracic.....95,455 "
Codeia.....4 dr.
Manganesii Sulphas.....12 lbs.

Manganesii Hydriodas	15 oz.	Conia	2 oz.
Manganesii Citras	15 "	Dipple's Animal Oil	12 lbs.
Zinci Chlorid. Sicc.	100 "	Pepsin	4 oz.
Sulphate of Cadmium	15 "	Hippuric Acid	4 "
Iodide of Cadmium	20 "	Digitalin	4 "
Bromide of Cadmium	10 "	Salicin	112½ lbs.
Caffein	1½ "	Bacc. Juniperi	97 "
Iodide of Ammonium	25 "	Rosa Gallica	3 "
Acid Phosphoric Glac.	46 "	Coal Naptha	50 "
Plumbi Acet. Pur.	10 lbs.	Beeberin	1 oz.
Sal Rochelle	1950 "	Gauza	227 lbs.
Fol. Salviæ	708 "	Ol. Sabinæ Vera	150 oz.
Rad. Hellebori	492 "	Oxide of Copper	50 lbs.
Rad. Colombæ	10,300 "	Oxide of Uranium	25 "
Acid Benzoic	200 "	Gum Olibanum	1200 "
Storax	520 "	Ext. Valerian Rad.	2 "
Lactucarium (German)	8½ "	Pulv. Rad. Scillæ	5 "
Morphia Sulphas	12½ "	Price's Glycerin	200 "
Strychnia Cryst. Pur.	22¼ "	Bi-carb. Potassæ	50 "
Chloroform	81 "	Zinci Oxidum Purum	25 "
Ergotin	1 "	Baryta Nitras	431 "
Cowhage	21 "	Rad. Zing. Jam.	5200 "
Alcohol Absolute	56½ "	Ol. Geranii	50 "

List of Drugs, etc., rejected by the Examiner at N. Y., during the same period.

Lac Sulphuris	5 casks.	Carbonate & Calcined Magnesia	16 cases.
Flores Sulphuris (contained Arsenic)	84 "	East India Rhubarb	53 "
Gum Arabic	4 cases.	Peruvian Bark	5 seroons
		Ipecacuanha	1 bale.

The Sale of Poisons by Apothecaries and Druggists.—The following Report from the Censors of the College of Physicians was presented to the College at the *Comitia Majora*, on Thursday, June 25 :—

"At the end of a year of visitation, the Censors having inspected, as they believe, every shop in the city, have the satisfaction of reporting that improvement is gradually taking place in all the Apothecaries' shops within their appointed district. In many instances they have had occasion to express their marked approbation, and have found much to commend in nearly all. The Censors have especially directed their attention to the care taken of poisonous drugs, and the method of their sale. They again found occasion to commend many methodical attempts to indicate poisonous drugs, so as to avoid accidents in dispensing them. They consider, however, that the extension of sound chemical knowledge among the Druggists and dispensers of medicines would be the most effective safeguard against accident; and, as regards the public, they consider that a wider knowledge of the nature of poisons and their effects, and the certainty of their detection when administered, would tend most effectually to restrain both the criminal and the careless use of them.

(Signed) James Alderson,
William A. Guy,
Patrick Black,
Henry Pitman,
Censors."

Royal College of Physicians, June 25, 1857.

London Pharm. Journal.

Minutes of the Philadelphia College of Pharmacy.

The Semi-Annual meeting was held at the College Hall, 9th mo. 28th, 1857.

The first Vice President, S. F. Troth, in the Chair.

The Minutes of the last stated and special meetings were adopted.

By the minutes of the Board of Trustees, which were read, it appears that George Blinkhorn has taken the degree of Graduate in Pharmacy in compliance with the requisitions.

Charles Shivers, recommended to membership by the Board of Trustees, was now on ballot unanimously elected a resident member.

The Committee appointed on the proposition to unite with the Board of Trade were continued.

The Committee on the alteration of the College building, made a report detailing the improvements accomplished, the expense incurred and the methods adopted for raising the funds; by this it appears that the building has been thoroughly repaired and painted, inside and out, the first story has been papered and varnished, the second story much improved, and a new and complete Lecture room fitted up in the third story; the stairway formerly leading from the south end of the building against the western wall to the fourth story has been removed, and the well obliterated in the third story, and in the second and first stories converted into small rooms communicating with the lecture and meeting rooms, the former serving as a large closet for the use of the Professors of Chemistry and Pharmacy, and by a division midway between the floor and ceiling furnishing a place for the storage of the stock of Journals on hand. The stairway on the east side of the building has been carried up to the fourth story.

Most of the expense, which reaches about $900, has been provided for, by a loan for not more than two years without interest, taken by members of the College in shares of $25.

The Report of the Committee was accepted, and, on motion, the Committee on Latin Labels and the Publication Committee were each instructed to pay over $150 to enable the Committee on the alterations to meet the remainder of their indebtedness.

The delegates to the American Pharmaceutical Association reported as follows:

The undersigned, delegates elected to attend the meeting of the American Pharmaceutical Association, report that they have attended to the duty, and that the meeting took place in the Hall of the College on the 8th, 9th, 10th and 11th of the present month. The attendance was larger than ever before, reaching 75 members; the business was conducted with much harmony, and several interesting papers on scientific subjects were read. The subjects of the Sale of Poisons, of Weights and Measures, and the Progress of Pharmacy during the past year, were reported on by Com-

mittees. The revision of the Pharmacopœia was discussed and provided for, and various scientifics subjects were reported on by individuals to whom they had been referred. The members in attendance generally expressed themselves gratified with the results of the meeting, and the weather proving fine, added not a little to the satisfaction of all concerned. Appended to this report is a copy of the Minutes of the meeting as they will appear in the *American Journal of Pharmacy for November*. The undersigned, in common with other members of the Association, partook of the elegant entertainment provided by the Local Committee of this College, in the College Hall, and were gratified with the manner in which it was conducted. The report of the Local Committee will doubtless give a full account of this part of the history of the Association meeting.

Signed by the Delegates.

The services of the Local Committee were spoken of with approval by several of the members, and a unanimous vote of thanks adopted by the Board of Trustees was directed to be entered on the Minutes of the College.

The following report of the Committee on the Sinking Fund was read:

In the Fall of 1846 the Finance Committee having concluded its arduous duty, of reducing the debt of the College from seven thousand and eight hundred dollars to three thousand dollars, a Committee of three members was appointed to be called the Committee on the Sinking Fund, whose duty it was to invest such sums as might from time to time be placed at their disposal in the purchase of the remaining debt of the College. This Committee for the past ten years has annually reported its proceedings to the College at its stated meetings in the 3d month, but has never had its accounts examined.

Having at length the pleasure of communicating to this body that they believe they have faithfully accomplished the object of their appointment, having this summer paid off the last share of loan created in the year 1832 to build the Hall on Zane street, they herewith hand an account of their receipts and disbursements, and ask that a Committee may be appointed to examine and settle the same.

They also offer the following:—

Resolved, That a Committee on the Sinking Fund be continued, and annually appointed to receive and invest such sums as may from time to time be placed at their disposal from the proceeds of Latin Labels, Patent Medicine Directions and other sources, and apply it in the first place to paying off the debt of the College created this summer for repairs and improvements to the building; and in the second place to invest in good and safe securities, for the purpose of creating a fund to pay off the ground rent still remaining on the College Hall.

Samuel F. Troth,
Ambrose Smith,
Edward Parrish.

Philadelphia, 9th month 22d, 1857.

On motion, the report was accepted, and the resolution contained in it was adopted.

Thomas P. James and Robert Bridges were appointed to audit the accounts of this Committee to this date.

The following resolution, offered by Prof. Thomas, was unanimously adopted, directed to be engrossed, signed by the President and Secretary, and presented to the Chairman of the Sinking Fund Committee:

Resolved, That Samuel F. Troth, by his zealous and successful labors as member of the Finance Committee appointed in 1844 to endeavor to relieve this College of its then existing embarrassments, and by his faithful and efficient discharge of the duties of Chairman of the Committee on Sinking Fund appointed in 1847, under whose auspices the onerous debt contracted for the erection of the Hall in Zane street has been finally extinguished, merits and is hereby unanimously tendered the thanks of this College.

On motion it was Resolved, That, for the purpose of closing the accounts of the Sinking Fund Committee to the present time, the one hundred dollars loaned by said Committee to the general account be transferred to the Treasury of the College.

On motion it was Resolved, that the Treasurer be instructed to make an additional insurance of $3000 on the Hall, selecting some other office than that now insured in. S. F. Troth was appointed to aid the Treasurer therein.

A resignation of membership was received from Henry M. Troth, who is about to remove from the city. The required information being received from the Treasurer, the resignation was accepted.

William Biddle having retired from the pharmaceutical profession, after having been a resident member of this College for thirty-one years, and also having presented the sinking fund with fifty dollars, it was unanimously resolved that he be elected a life member of the Philadelphia College of Pharmacy.

Dr. John Harris having also retired from the profession, requested through the Treasurer to resign his membership; and in consideration of his faithful service during a series of years, his certificate of membership was voted to him and his resignation accepted.

The following members having either removed from the city or being in arrears for at least two years previous to the current year, it was resolved that their names be stricken from the Roll, and that they be requested to return their certificates of membership to the Treasurer: H. W. Worthington, Charles H. Dingee, Francis Zerman, Claudius B. Linn, Benjamin R. Smith, Jos. A. McMakin, Charles S. Rand.

Prof. Thomas presented the College with a bust of Prof. Geo. B. Wood, in plaster, to be placed as an ornament in the Hall. On motion a vote of thanks was tendered him.

The semi-annual election was held, which resulted in the choice of the following members to the Board of Trustees:

T. P. James,	W. J. Jenks,
Jacob L. Smith,	S. S. Garrigues,
A. B. Taylor,	W. H. Pile,
E. T. Ellis,	C. Bullock.

Then adjourned.

EDWARD PARRISH, *Secretary*.

Editorial Department.

THE LATE MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.—Our readers will find a full account of the Proceedings of the Association at its recent meeting in this city, with several of the papers read during the sessions, in the preceding pages of this number. The occasion was marked with more than ordinary interest, the attendance being quite numerous, representing the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Ohio, Michigan and Illinois. Good feeling prevailed during the several sittings, and nothing occurred to mar the interest of the members. After the adjournment, the strangers present were invited to partake in an excursion to Fairmount, Laurel Hill and the Wissahickon in the afternoon, and an entertainment was given to them in the evening at the College Hall under the superintendence of the Local Committee, which passed off pleasantly.

We take advantage of this opportunity to state that the "Proceedings" of the Association, published by its authority by the Executive Committee, is now ready for the members, and is a volume of 180 pages, octavo. The Committee have had a number of copies bound, so as to be more readily preserved, and as the work contains several valuable papers it is well worth a place in every pharmaceutical library. The price of the work in paper cover, is 24 cents, the postage on it 9 cents. The price, bound, is 39 cents, and postage 15 cents. These prices merely cover the cost. All who want copies can get them by enclosing 11 letter stamps for the unbound, and 18 letter stamps for the bound copies, directed to the Chairman of the Executive Committee, Samuel S. Garrigues, 108 north 5th street, Philada.

COMPOUND SYRUP OF PHOSPHATES, OR CHEMICAL FOOD.—Several years ago, Dr. Samuel Jackson, of the University of Pennsylvania, introduced a prescription of the phosphates of iron, lime, soda and potassa, which was considerably prescribed at that time by himself and some other physicians, in solution by aid of an excess of phosphoric acid. The proportion of ingredients have varied, and the manner of making the solution—sometimes phosphoric acid and sometimes muriatic and lactic acids being employed as the solvents. The favorable results from the use of the phosphates so combined gradually led to their being made into a comparatively permanent compound syrup, first by Durand & Tourtelot, and subsequently by H. C. Blair & Co., and others. The last named firm claim for their syrup the approval of Professor Jackson, and we had hoped to have been able to give to our readers the formula for its preparation; but as they decline making it public, we have availed ourselves of the recipe of our friend Edward Parrish, who has communicated at our solicitation the following recipe. Whatever difference there may be between these formulæ, we believe it has reference almost entirely to the *modus operandi* and the unes-

sential ingredients, and not to the proportion of phosphates in any important degree; and hence we feel confidence in publishing this recipe:

Chemical Food.

Take of	Protosulphate of Iron	℥x.
	Phosphate of Soda	℥xij.
	Phosphate of Lime	℥xij.
	Phosphoric Acid, glacial	℥xx.
	Carbonate of Soda	℈ij.
	Carbonate of Potassa	℥i.
	Muriatic Acid, Water of Ammonia }	of each sufficient
	Powdered Cochineal	℥ij.
	Water, sufficient to make	f ℥xx.
	Sugar	lb. iij. (Troy.)
	Oil of Orange	m. x.

Dissolve the sulphate of iron in f.℥ij. of boiling water, and the phosphate of soda in f.℥iv. of boiling water. Mix the solutions, and wash the precipitated phosphate of iron till the washings are tasteless.

Dissolve the phosphate of lime in four fluidounces of boiling water with sufficient muriatic acid to make a clear solution, precipitate it with water of ammonia, and wash the precipitate.

To the freshly precipitated phosphates as thus prepared, add the phosphoric acid previously dissolved in the water. When clear add the carbonates of soda and potassa, and afterwards sufficient muriatic acid to dissolve the precipitate.

Now add the cochineal mixed with the sugar, apply heat, and when the syrup is formed strain and flavor it.

Each teaspoonful contains about 1 grain of phosphate of iron and 2½ grains of phosphate of lime, with smaller proportions of the alkaline phosphates, all in perfect solution.

Powdered Extract of Hyoscyamus.—We have received the following letter on this subject:—

Cincinnati, September 21st, 1857.

To the Editor of the American Journal of Pharmacy:

Sir,—The extracts of hyoscyamus, belladonna, conium mac., etc., if carefully dried at a heat not exceeding 212 or 215 degrees F. and pulverized, will, (especially the first), no matter how carefully corked when used, attract moisture from the air, and become too soft for powders and too tough for any other use. How can this be prevented? Are those extracts proper articles to be prescribed in and for powders, which is often done?

As other druggists may have suffered from the same cause, it might not be unwelcome if you would, in the "Journal," give proper information.

Respectfully, Chas. A. Junghanns.

The usual course pursued is to triturate the extract with sugar or other inert powder, if no others are associated in sufficient quantity to give the requisite dryness to the mixture. The object of our correspondent could probably be attained best by treating the Extract of Hyoscyamus with alcohol till exhausted, and evaporate the alcoholic solution to dryness, and then adding as much pure cane or milk sugar as will make up the original weight of the extract in its normal condition, and triturate to a uniform powder.

The hygroscopic tendency of the extract of hyoscyamus is probably due to the natural saline matter of the plant, of which it contains about seven per cent., and which is partly extracted in the juice and remains in the extract.

Fluid Extract of Bark.—The following letter has been received from our old correspondent:—

Baltimore, Md., September 22th, 1857.

To the Editor of the Journal of Pharmacy:

Dear Sir,—In preparing some fluid extract of Calisaya bark I thought proper to vary the usual process, expecting to procure a prettier pharmaceutic preparation, and succeeded, unless the preparation has impaired the powers of the drug. The bark was pulverized and packed lightly in a funnel percolator, the powder previously moistened with 95° alcohol. The active principle was exhausted by continuous additions of the spirit. The percolation was then continued with water. The two percolates were mixed and evaporated to the proper quantity; this being cloudy, from the resinous matter precipitated by the addition of the aqueous infusion and evaporation of the spirits, *was strained*. The sugar was then added in the proportion indicated by Alfred B. Taylor's formula. Heat from a water bath was continued a short time and the fluid extract was finished. The resultiug preparation is very pretty. The gummy and resinoid residuum strained from the evaporated percolate is of a dark brown color, having little or no taste, and is, as I conceive, a foreign matter, which may be removed without impairing the integrity of the preparation.

I have submitted this matter to your consideration for the benefit I may obtain from any editoriai remarks you may think proper to make.

Enclosed is a sample of the residuum obtained by the straining.

Respectfully yours, Læno.

"Læno" has fallen into the common error of supposing that because the precipitate from tincture of cinchonia by evaporation is insoluble and tasteless, it must be inert; whereas it contains a considerable per centage of cinchotannate of quinia and cinchonia, as a few drops of diluted muriatic acid added to the "residuum," of which he sent us a sample, would convince him if tasted. Mr. Taylor was well aware of the value of this precipitate in suggesting the formula, and hence left it in the preparation, to which, though detracting from its beauty, it gives additional medical value. If the fluid extract is made with a small excess of muriatic or sulphuric acid, as suggested by I. C. Jones, a clear preparation is afforded, but the natural alkaloidal salts are decomposed and the extract is much more bitter.

Tænia Solium.—We publish the following narrative, though not strictly within our province, because in some of its details it may prove useful, as suggested by the author.

New York, October, 1857.

To the Editor of the American Journal of Pharmacy.

Dear Sir,—The subject about which I address you will, no doubt, seem to you very strange, perhaps incredible; but believe me, I shall give nothing but plain facts, just as they occurred; and, if you think the subject worthy of the space in your journal, they may, perhaps, be of benefit to physicians treating cases similar to mine. In 1849 I went to California; in 1850, one morning, in having a passage of the bowels, I noticed several small worms in the excrement, (I forgot to mention I am a druggist, have

been in the business over 13 years,) and in returning to the store I took a bottle of vermifuge without any benefit. One week afterwards I took two bottles at a dose; it relieved me for about two weeks. Then I took large doses of calomel followed by castor oil; they only furnished temporary relief; consulted several of the best doctors; one recommended injections five or six times a day, all without relief; in fact, up to 1854, I consulted, I suppose, thirty different M. D.s showed them the worms, which had increased to such an extent that they would pass off in my pants. Some days I suppose I passed forty about an inch long; some days, perhaps, not more than twelve. The latter part of 1854, in having a passage, I had a queer feeling at the anus, and I found a worm had made his appearance. I commenced pulling, and pulled until I fainted away with fright, (and I am not easily frightened,) but I caved that time, sure. When I came to, I found my hand filled with I didn't know what, but I again pulled, until I could pull no more. I pulled much harder and it broke. I did it up in a newspaper, took it to the store (we had an M. D. at the store) and learnt that it was a tape worm. I washed it, then measured it, found it to be 32 feet; it seemed very elastic. I think by a little pulling it would have measured 40 feet. I preserved it in alcohol, and I suppose it is still in my old store in San Francisco. This did not decrease the passing of worms in my clothes. In 1855 I started for New York, via Nicaragua, per steamer Cortes, (on other side,) steamer Northern Light on this side; we stopped at Key West to coal. We got in a little before daylight, and about daybreak I had an operation on the beach. I again found it to be principally worms. I examined it, and it was between eighteen and twenty-five feet in length, all one piece. Persons troubled with tape worms are generally great eaters; this, Mr. Editor, was not the case with me; my *friend* seemed to want only liquid stimulants; some days I would drink twenty glasses of brandy and water, the average of brandy about three ounces to the drink, and be perfectly sober all day, (at the present, six such drinks would keep me drunk all day long.) The last worm, of course, I had no chance of preserving. I got to New York, went west, from thence south to New Orleans, took a clerkship in a drug store, (all the while having daily and nightly passages of that disagreeable friend). I consulted some of the best M. D.s of New Orleans; one, after several different treatments, without any favorable result, recommended the great remedy (described in Pereira's works) called Cusso or Kousso. I used two ounces, but with no relief. I could not keep from drinking my regular quantity of liquor every day. The latter part of 1856 I left New Orleans and came to New York, and took a clerkship where I could not go out and get drinks when I required them. I was often obliged to take a drink of Tr. Gent. Comp., Tr. Colombo, &c.; also other bitter tinctures; the alcohol they contained seemed to satiate my appetite. I now found when I drank these tonics, that the worms passed much more frequently. I again consulted another physician; he recommended half an ounce of turpentine, followed by castor oil, which relieved me for about a week (I repeated the dose three successive days). I had about given up that my case could not be cured, when one evening I argued the matter with myself, and I thought of treating the case mechanically. I will give you my process, which has succeeded, at least this is my opinion, it being a little over six months since I parted with my old companion (I call him so, he having been with me about seven years). I made up two gallons Tr. Gent. Co., and Tr. Colombo, (one gallon of each, then mixed,) U. S. Dispensatory. Drank it when I wanted stimulants, perhaps eight to twelve drinks per day, from two to three ounces per drink, (eat scarcely anything but a little soup); at the end of a week I found the worm was getting sick of his diet. They passed off quite freely. Now I took a sixteen ounce syringe, filled it with warm milk and

sugar, took the injection, retained it fully two hours; when it passed off the worm started; I again received over fifteen feet, but before I could pull it all he had fastened. I could feel that it was in the lower intestines, so I did not break it but held on. I poured out two ounces (fluid) spirits of turpentine, took it with one ounce of castor oil, sat down in a chair for over two hours, (still retaining the worm so as to prevent his going higher) in a little over two hours the medicine operated, and my friend had got sick of turpentine, and he passed off with the greatest ease, in all, a little less than eighteen feet. Fearing there might still be some remains of him, the next day I took one ounce of turpentine followed by oil. This was last April, and I have not felt the least symptoms of the worm since. I should have written to you ere this, but I always doubted my success, for I expected every day that I would again pass links of the worm; but now I am satisfied that my plan was successful. You will see how I starved and sickened the worm in the stomach, (where no doubt he was fastened) and then fed him on milk and sugar so as to coax him down, but he seemed too well pleased with his old quarters. When he found he was passing off, he made another desperate grip; in pulling a little I could feel it sensibly that it was quite low, full as low as where the milk must have reached, but the turpentine, I suppose, he could not stand, it being a large dose. Well, he is gone, and I do think I never parted with an old companion with greater pleasure. Some doctors may say I didn't follow their directions; but believe me, all the doctors under whose treatment I have been, have had their directions strictly adhered to. Many M. D.s will remember my case, and I am sure would be glad to learn how I was cured. I am now in good health and spirits. I forgot to mention, during the whole *worm season*, I never could get sleep enough; always felt sleepy. I have but a moderate appetite for drink now, in fact, I feel like a new man.

I have examined the links of the worm through a microscope. I find each link is a separate worm, but they hold on so firm you are just as apt to split one in two as to separate them by the joints. I send this for the reason that I found, in fact, every doctor that I applied to seemed to know but little, if any thing, about the treatment of tapeworm. Hoping this may be of benefit to unfortunate individuals who may be suffering what I have suffered, and perhaps to the faculty at large,

I remain yours, L.

The Hand-Book of Practical Receipts, of every day use; a manual for the chemist, druggist, medical practitioner, manufacturer, and heads of families; comprising the officinal medicines, their uses and modes of preparation; and formulæ for trade preparations, mineral waters, powders, beverages, dietetic articles, perfumery, cosmetics, etc. A glossary of the terms used in chemistry and medicine, including old names, contractions, vulgar and scientific demonstrations; with a copious index to all the preparations. By Thomas F. Branston. First American from the 2d London Edition. Philad'a: Lindsay & Blakiston, 1857. pp. 307.

The above title page sets forth the contents of the volume so fully that it is unnecessary for us to reiterate them. The Hand-book appears to be as well selected as the generality of works of the kind, and embraces many useful recipes that will more than repay the cost of the book to those that need them;—and more also that are of less value. Although of moderate size, it comprehends a great variety of recipes in medicine, of the arts and domestic economy.

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TO VOL. XXIX. (VOL. V. THIRD SERIES) OF THE AMERICAN JOURNAL OF PHARMACY.